Appendix A   -431-

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Appendix A   -440-

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Appendix A   -458-

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TAATCCACTATAACAGCAACCCTGTCGCCGTCATTCCCGCAAAAGCGGGAATGACGAAGC
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CGGCT
```

Appendix B

NMB Open Reading Frames

NMB0001 acetyltransferase, putative 491 3
NMB0002 hypothetical protein 890 498
NMB0003 glutamyl-tRNA synthetase 2305 914
NMB0004 EpiH/GdmH-related protein 3154 2513
NMB0005 arsenate reductase 3504 3154
NMB0006 thioredoxin-related protein 3628 4304
NMB0007 cell division ATP-binding protein FtsE 4304 4951
NMB0008 cell division protein FtsX, putative 4951 5865
NMB0009 BolA/YrbA family protein 5959 6204
NMB0010 phosphoglycerate kinase 7485 6277
NMB0011 UDP-N-acetylglucosamine 1-carboxyvinyltransferase 8819 7569
NMB0012 conserved hypothetical protein 10310 9342
NMB0013 conserved hypothetical protein 10792 10346
NMB0014 3-deoxy-D-manno-octulosonic-acid transferase 12104 10836
NMB0015 6-phosphogluconate dehydrogenase, decarboxylating 13615 12170
NMB0016 hypothetical protein 13911 14144
NMB0017 UDP-3-O-3-hydroxymyristoyl N-acetylglucosamine deacetylase 16137
    15217
NMB0018 pilin PilE 17734 17225
NMB0019 pilS cassette 18932 18513
NMB0020 pilS cassette 19646 19263
NMB0021 pilS cassette 20297 19914
NMB0022 pilS cassette 21157 20894
NMB0023 pilS cassette 21882 21466
NMB0024 pilS cassette 22474 22061
NMB0025 large pilS cassette 23489 22821
NMB0026 pilS cassette 23868 23594
NMB0027 FKBP-type peptidyl-prolyl cis-trans isomerase 24226 23900
NMB0028 hypothetical protein 24522 24307
NMB0029 glycerate dehydrogenase 24644 25594
NMB0030 methionyl-tRNA synthetase 27729 25675
NMB0031 glucosamine--fructose-6-phosphate aminotransferase (isomerizing)
    29683 27848
NMB0032 hypothetical protein 29959 30483
NMB0033 membrane-bound lytic murein transglycosylase A, putative 32229
    30907
NMB0034 conserved hypothetical protein 32440 33276
NMB0035 conserved hypothetical protein 33276 34439
NMB0036 conserved hypothetical protein 34706 35968
NMB0037 phnA protein 36372 36046
NMB0038 UDP-N-acetylglucosamine pyrophosphorylase 37817 36450
NMB0039 hypothetical protein 38144 37875
NMB0040 hydrolase, putative 38850 38140
NMB0041 ABC transporter, periplasmic solute-binding protein 38909 39907
NMB0042 conserved hypothetical protein 40004 40849
NMB0043 conserved hypothetical protein 40878 41360
NMB0044 peptide methionine sulfoxide reductase 43033 41468
NMB0045 signal recognition particle protein 43179 44441
NMB0046 hypothetical protein 44451 44672
NMB0047 conserved hypothetical protein 45072 45353
NMB0048 conserved hypothetical protein FRAMESHIFT 47969 48109
NMB0049 pilC2 protein FRAMESHIFT 48116 51279
NMB0050 conserved hypothetical protein 55173 53026
NMB0051 twitching motility protein 56685 55462
NMB0052 twitching motility protein PilT 57891 56851
NMB0053 conserved hypothetical protein 58011 58694
NMB0054 hypothetical protein 58697 59101
NMB0055 pyrroline-5-carboxylate reductase 59153 59941

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NMB0056 DnaK suppressor protein 60091 60504
NMB0057 hypothetical protein 66347 66700
NMB0058 hypothetical protein 66731 66885
NMB0059 dnaJ protein 66972 68090
NMB0060 conserved hypothetical protein 68289 70304
NMB0061 dTDP-6-deoxy-L-lyxo-4-hexulose reductase FRAMESHIFT 70923 69924
NMB0062 glucose-1-phosphate thymidylyltransferase 71828 70965
NMB0063 dTDP-D-glucose 4,6-dehydratase 72958 71894
NMB0064 UDP-glucose 4-epimerase 74093 73077
NMB0065 hypothetical protein 74476 75399
NMB0066 rRNA adenine N-6-methyltransferase 75687 76418
NMB0067 polysialic acid capsule biosynthesis protein SiaD, truncation
        77283 76609
NMB0068 polysialic acid capsule biosynthesis protein SiaC 78416 77370
NMB0069 polysialic acid capsule biosynthesis protein SiaB 79103 78420
NMB0070 polysialic acid capsule biosynthesis protein synX 80240 79110
NMB0071 capsule polysaccharide export outer membrane protein CtrA 80375
        81547
NMB0072 capsule polysaccharide export inner-membrane protein CtrB 81565
        82725
NMB0073 capsule polysaccharide export inner-membrane protein CtrC 82728
        83522
NMB0074 capsule polysaccharide export ATP-binding protein CtrD 83522 84169
NMB0075 transcriptional accessory protein Tex, putative 84236 86506
NMB0076 methyltransferase HphIm(C), FRAMESHIFT 86540 87539
NMB0077 site-specific DNA methylase, truncation 87529 87876
NMB0078 UDP-glucose 4-epimerase, truncation 87922 88575
NMB0079 dTDP-D-glucose 4,6-dehydratase 88694 89758
NMB0080 glucose-1-phosphate thymidylyltransferase 89824 90687
NMB0081 dTDP-4-keto-6-deoxy-D-glucose-3,6-epimerase 90729 91280
NMB0082 capsule polysaccharide modification protein LipA 91308 93419
NMB0083 capsule polysaccharide modification protein LipB 93559 94815
NMB0084 conserved hypothetical protein FRAMESHIFT 95185 96587
NMB0085 sodium/glutamate symporter 96808 98019
NMB0086 hypothetical protein 98121 99134
NMB0087 hypothetical protein 99148 99342
NMB0088 outer membrane protein P1, putative 101170 99773
NMB0089 pyruvate kinase II 102957 101488
NMB0090 IS1016 family transposase, putative FRAMESHIFT 103217 103857
NMB0091 hypothetical protein 104399 104632
NMB0092 hypothetical protein 104629 104853
NMB0093 hypothetical protein 104856 104939
NMB0094 hypothetical protein 105228 105413
NMB0095 hypothetical protein 105423 105572
NMB0096 hypothetical protein 105676 105843
NMB0097 secretion protein, putative POINT MUTATION 105860 107344
NMB0098 ABC transporter, ATP-binding protein FRAMESHIFT 107313 109396
NMB0099 hypothetical protein 109624 109484
NMB0100 hypothetical protein 109770 109627
NMB0101 IS1016 family transposase, putative FRAMESHIFT 109850 110489
NMB0102 hypothetical protein 110608 111123
NMB0103 bacteriocin resistance protein, putative 111896 111405
NMB0104 hypothetical protein 113073 112402
NMB0105 PhnO-related protein 114197 113358
NMB0106 aspartate carbamoyltransferase, catalytic subunit 114436 115353
NMB0107 aspartate carbamoyltransferase, regulatory subunit 115366 115821
NMB0108 hypothetical protein 115889 116551
NMB0109 conserved hypothetical protein 117948 116620
NMB0110 polypeptide deformylase 118018 118518
NMB0111 methionyl-tRNA formyltransferase 118608 119531
NMB0112 16S RNA methyltransferase 119613 120869
NMB0113 hypothetical protein 120892 121431
NMB0114 nitrogen regulation protein NtrY, putative 121434 123551
NMB0115 nitrogen assimilation regulatory protein NtrX 123547 124821

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NMB0116 DNA processing chain A 124915 126105
NMB0117 smg protein, putative 126134 126592
NMB0118 DNA topoisomerase I 126667 128970
NMB0119 hypothetical protein 129741 129049
NMB0120 hypothetical protein 130312 129764
NMB0121 conserved hypothetical protein 130431 130805
NMB0122 conserved hypothetical protein 130897 131463
NMB0123 ferredoxin, 4Fe-4S bacterial type 131589 131837
NMB0124 translation elongation factor Tu 132257 133438
NMB0125 preprotein translocase subunit SecE 133638 133913
NMB0126 transcription antitermination protein NusG 133918 134451
NMB0127 50S ribosomal protein L11 134555 134986
NMB0128 50S ribosomal protein L1 134989 135681
NMB0129 hypothetical protein 135753 135893
NMB0130 50S ribosomal protein L10 135914 136411
NMB0131 50S ribosomal protein L7/L12 136472 136840
NMB0132 DNA-directed RNA polymerase, beta subunit FRAMESHIFT 137027 141208
NMB0133 DNA-directed RNA polymerase, beta' subunit 141368 145540
NMB0134 hypothetical protein 145835 146089
NMB0135 conserved hypothetical protein 146089 146235
NMB0136 30S ribosomal protein S12 146417 146785
NMB0137 30S ribosomal protein S7 146906 147373
NMB0138 elongation factor G (EF-G) 147395 149497
NMB0139 translation elongation factor Tu 149586 150767
NMB0140 30S ribosomal protein S10 150788 151096
NMB0141 transposase, truncation 151241 151603
NMB0142 50S ribosomal protein L3 151777 152418
NMB0143 50S ribosomal protein L4 152421 153038
NMB0144 50S ribosomal protein L23 153038 153349
NMB0145 50S ribosomal protein L2 153358 154188
NMB0146 30S ribosomal protein S19 154198 154473
NMB0147 50S ribosomal protein L22 154485 154811
NMB0148 30S ribosomal protein S3 154824 155513
NMB0149 50S ribosomal protein L16 155500 155913
NMB0150 50S ribosomal protein L29 155916 156104
NMB0151 30S ribosomal protein S17 156107 156367
NMB0152 50S ribosomal protein L14 156592 156957
NMB0153 50S ribosomal protein L24 156972 157292
NMB0154 50S ribosomal protein L5 157305 157841
NMB0155 30S ribosomal protein S14 157847 158149
NMB0156 30S ribosomal protein S8 158168 158557
NMB0157 50S ribosomal protein L6 158574 159104
NMB0158 50S ribosomal protein L18 159121 159471
NMB0159 30s ribosomal protein S5 159493 160008
NMB0160 50S ribosomal protein L30 160004 160186
NMB0161 50S ribosomal protein L15 160191 160622
NMB0162 preprotein translocase SecY subunit 160637 161944
NMB0163 translation initiation factor IF-1 161952 162167
NMB0164 50S ribosomal protein L36 162191 162301
NMB0165 30S ribosomal protein S13 162370 162729
NMB0166 30S ribosomal protein S11 162752 163144
NMB0167 30S ribosomal protein S4 163167 163784
NMB0168 DNA-directed RNA polymerase, alpha subunit 163813 164796
NMB0169 50S ribosomal protein L17 164823 165188
NMB0170 septum site-determining protein MinC 165338 166048
NMB0171 septum site-determining protein MinD 166079 166891
NMB0172 cell division topological specificity factor 166898 167158
NMB0173 transcriptional regulator, LysR family 167165 168082
NMB0174 valyl-tRNA synthetase 171252 168418
NMB0175 conserved hypothetical protein 172158 171352
NMB0176 D-amino acid dehydrogenase, small subunit 173595 172342
NMB0177 sodium/alanine symporter, putative 175065 173677
NMB0178 acyl-(acyl-carrier-protein)--UDP-N-acetylglucosamine O-
        acyltransferase 176198 175425
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NMB0179 (3R)-hydroxymyristoyl-(acyl carrier protein) dehydratase 176734
        176288
NMB0180 UDP-3-O-(3-hydroxymyristoyl)-glucosamine N-acyltransferase 177814
        176771
NMB0181 outer membrane protein OmpH, putative 178347 177850
NMB0182 outer membrane protein Omp85 180806 178416
NMB0183 conserved hypothetical protein 182203 180866
NMB0184 1-deoxy-D-xylulose 5-phosphate reductoisomerase 183422 182241
NMB0185 phosphatidate cytidylyltransferase 184275 183481
NMB0186 undecaprenyl pyrophosphate synthetase 185024 184281
NMB0187 ribosome recycling factor 185637 185083
NMB0188 conserved hypothetical protein 186944 185820
NMB0189 hypothetical protein 187355 187774
NMB0190 glucose inhibited division protein B 187935 188555
NMB0191 ParA family protein 188657 189427
NMB0192 ribonuclease HII 191274 190693
NMB0193 glucose inhibited division protein A 193238 191346
NMB0194 amino acid symporter, putative 194991 193567
NMB0195 pyridoxal phosphate biosynthetic protein PdxA 195133 196137
NMB0196 ribonuclease E 200197 197441
NMB0197 hypothetical protein 200321 200605
NMB0198 ribosomal large subunit pseudouridine synthase C 200690 201679
NMB0199 lipid-A-disaccharide synthase 201730 202899
NMB0200 hypothetical protein 203501 203115
NMB0201 hypothetical protein 203724 204131
NMB0202 hypothetical protein 204152 204322
NMB0203 dihydrodipicolinate reductase 205207 204401
NMB0204 lipoprotein, putative 205594 205220
NMB0205 ferric uptake regulation protein 205813 206244
NMB0206 leucyl/phenylalanyl-tRNA--protein transferase 206317 207039
NMB0207 glyceraldehyde 3-phosphate dehydrogenase 208326 207298
NMB0208 ferredoxin, 4Fe-4S bacterial type 209364 208528
NMB0209 glutathione-regulated potassium-efflux system protein 209513
        211486
NMB0210 site-specific DNA methylase, truncation 212082 212401
NMB0211 L-serine dehydratase 214093 212711
NMB0212 DNA gyrase subunit B 216580 214193
NMB0213 hypothetical protein 216736 217719
NMB0214 oligopeptidase A 217810 219843
NMB0215 conserved hypothetical protein 221035 220472
NMB0216 catalase 222945 221434
NMB0217 RNA polymerase sigma-54 factor RpoN, putative 223293 224141
NMB0218 glycosyltransferase 226194 225067
NMB0219 3-oxoacyl-(acyl-carrier-protein) synthase II 227746 226502
NMB0220 acyl carrier protein 228138 227905
NMB0221 dihydroorotate dehydrogenase 228370 229374
NMB0222 hypothetical protein 229540 230010
NMB0223 hypothetical protein 230140 230355
NMB0224 glutamate-ammonia-ligase adenylyltransferase 230556 233243
NMB0225 transposase, IS30 family FRAMESHIFT 234513 233551
NMB0226 conserved hypothetical protein 235470 234781
NMB0227 conserved hypothetical protein 236771 235581
NMB0228 conserved hypothetical protein 237637 236903
NMB0229 conserved hypothetical protein FRAMESHIFT 238552 237662
NMB0230 conserved hypothetical protein 239196 238552
NMB0231 hypothetical protein 239356 239255 N
NMB0232 DNA helicase II 239380 241584
NMB0233 hypothetical protein 241663 241761
NMB0234 hypothetical protein 242111 242647
NMB0235 hypothetical protein 243052 242894
NMB0236 hypothetical protein 243168 243063
NMB0237 hypothetical protein 243535 243179
NMB0238 IS1016 family transposase, degenerate 243588 243849
NMB0239 hypothetical protein 244051 244668

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NMB0240  hypothetical protein 244694 246142
NMB0241  NADH dehydrogenase I, A subunit 246607 246960
NMB0242  NADH dehydrogenase I, B subunit 246954 247433
NMB0243  NADH dehydrogenase I, C subunit 247449 248039
NMB0244  NADH dehydrogenase I, D subunit 248032 249285
NMB0245  NADH dehydrogenase I, E subunit 249288 249758
NMB0246  NADH dehydrogenase I, F subunit 250151 251449
NMB0247  hypothetical protein 251452 251886
NMB0248  conserved hypothetical protein 252175 252411
NMB0249  NADH dehydrogenase I, G subunit 252726 254984
NMB0250  NADH dehydrogenase I, H subunit 254990 256063
NMB0251  NADH dehydrogenase I, I subunit 256147 256623
NMB0252  hypothetical protein 256657 257361
NMB0253  NADH dehydrogenase I, J subunit 257400 258068
NMB0254  NADH dehydrogenase I, K subunit 258068 258370
NMB0255  cell filamentation protein Fic-related protein 258407 258979
NMB0256  hypothetical protein 259106 259444
NMB0257  NADH dehydrogenase I, L subunit 259496 261517
NMB0258  NADH dehydrogenase I, M subunit 261616 263109
NMB0259  NADH dehydrogenase I, N subunit 263122 264561
NMB0260  hypothetical protein 264612 264995
NMB0261  geranyltranstransferase 265863 265087
NMB0262  exodeoxyribonuclease, small subunit 266188 265967
NMB0263  conserved hypothetical protein 267358 266438
NMB0264  ABC transporter, ATP-binding protein 269219 267366
NMB0265  Holliday junction DNA helicase RuvA 269966 269385
NMB0266  conserved hypothetical protein 270374 270051
NMB0267  conserved hypothetical protein 271155 270439
NMB0268  RNA methyltransferase, TrmH family 271749 271288
NMB0269  competence protein 272539 271817
NMB0270  bioH protein, putative 272538 273284
NMB0271  hypothetical protein 273284 274069
NMB0272  hypothetical protein 274527 274820
NMB0273  hypothetical protein 274861 275283
NMB0274  ATP-dependent DNA helicase RecQ 277728 275431
NMB0275  indole-3-glycerol phosphate synthase 278575 277796
NMB0276  conserved hypothetical protein 279582 278629
NMB0277  virulence factor MviN 281255 279717
NMB0278  thiol:disulfide interchange protein DsbA 281470 282165
NMB0279  conserved hypothetical protein 283229 282228
NMB0280  organic solvent tolerance protein, putative 283431 285704
NMB0281  peptidyl-prolyl cis-trans isomerase 285809 286852
NMB0282  ribonuclease II-related protein 290243 288366
NMB0283  conserved hypothetical protein 290552 291181
NMB0284  adenylosuccinate lyase 291256 292623
NMB0285  O-antigen acetylase FRAMESHIFT 292707 294573
NMB0286  conserved hypothetical protein 295481 294870
NMB0287  probable ATP-dependent helicase DinG 297668 295521
NMB0288  hypothetical protein 297740 297967
NMB0289  deoxyribodipyrimidine photolyase, FRAMESHIFT 299363 298066
NMB0290  transcriptional regulator, putative 300264 299356
NMB0291  conserved hypothetical protein 300372 300767
NMB0292  conserved hypothetical protein 300819 301421
NMB0293  TonB-dependent receptor, putative 301610 303718
NMB0294  thiol:disulfide interchange protein DsbA 303836 304528
NMB0295  signal recognition particle protein 306232 304865
NMB0296  CcsA-related protein 306452 307255
NMB0297  hypothetical protein 307272 307367
NMB0298  hypothetical protein 307401 307583
NMB0299  comEA-related protein 313097 313540
NMB0300  hypothetical protein 313603 313904
NMB0301  Hypothetical protein 313958 314161
NMB0302  IS1016C2 transposase, degenerate 314284 314933
NMB0303  transposase, degenerate 315024 315307
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NMB0304 class 5 outer membrane protein, degenerate 315549 315295
NMB0305 hypothetical protein 315891 315736
NMB0306 hypothetical protein 316061 316252
NMB0307 phospho-2-dehydro-3-deoxyheptonate aldolase, phe-sensitive 316403
        317455
NMB0308 dihydrofolate reductase 317526 318011
NMB0309 conserved hypothetical protein 318840 318367
NMB0310 conserved hypothetical protein 319280 318855
NMB0311 hypothetical protein 319392 319634
NMB0312 virulence-associated protein VapA FRAMESHIFT 321089 323177
NMB0313 conserved hypothetical protein 323422 324885
NMB0314 hypothetical protein 326057 325092
NMB0315 conserved hypothetical protein 326135 327424
NMB0316 conserved hypothetical protein 328616 327933
NMB0317 conserved hypothetical protein 329164 328694
NMB0318 fatty acid efflux system protein 329606 330757
NMB0319 fatty acid efflux system protein 330784 332307
NMB0320 hypothetical protein 332373 332519
NMB0321 50S ribosomal protein L28 332560 332790
NMB0322 50S ribosomal protein L33 332825 332977
NMB0323 UbiH family protein 334353 333172
NMB0324 50S ribosomal protein L27 334964 334695
NMB0325 50S ribosomal protein L21 335297 334992
NMB0326 octaprenyl-diphosphate synthase 335521 336492
NMB0327 conserved hypothetical protein FRAMESHIFT 336500 336944
NMB0328 hypothetical protein 336993 337165
NMB0329 type IV pilus assembly protein 337388 339061
NMB0330 conserved hypothetical protein 339358 339152
NMB0331 kinase, putative 339983 339354
NMB0332 type IV prepilin peptidase 340845 339988
NMB0333 pilus assembly protein PilG 342151 340922
NMB0334 glucose-6-phosphate isomerase 342508 344148
NMB0335 2,3,4,5-tetrahydropyridine-2-carboxylate N-succinyltransferase
        344361 345179
NMB0336 enoyl-(acyl-carrier-protein) reductase 345337 346119
NMB0337 branched-chain amino acid aminotransferase, putative 347364 346369
NMB0338 hypothetical protein 347506 347985
NMB0339 conserved hypothetical protein 347999 349165
NMB0340 lactoylglutathione lyase FRAMESHIFT 349193 349605
NMB0341 tspA protein 352407 349783
NMB0342 intracellular septation protein A 352613 353140
NMB0343 conserved hypothetical protein 353158 353433
NMB0344 BolA/YrbA family protein 353436 353711
NMB0345 cell-binding factor, putative 353763 354626
NMB0346 hypothetical protein 354700 355455
NMB0347 conserved hypothetical protein 355531 356019
NMB0348 conserved hypothetical protein 356053 357060
NMB0349 glutamyl-tRNA synthetase-related protein 358020 357136
NMB0350 hypothetical protein 358760 358311
NMB0351 transaldolase 359966 358914
NMB0352 sugar isomerase, KpsF/GutQ family 360063 361034
NMB0353 conserved hypothetical protein 361255 361788
NMB0354 hypothetical protein 361788 362366
NMB0355 conserved hypothetical protein 362350 362877
NMB0356 ABC transporter, ATP-binding protein 362924 363685
NMB0357 monofunctional biosynthetic peptidoglycan transglycosylase 364858
        364160
NMB0358 shikimate 5-dehydrogenase 365670 364864
NMB0359 glutamate--ammonia ligase 365970 367385
NMB0360 AmpG-related protein 367544 368824
NMB0361 conserved hypothetical protein 368824 369096
NMB0362 hypothetical protein 369205 369282
NMB0363 hypothetical protein 369610 369744
NMB0364 FrpC operon protein 370088 370858

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NMB0365 iron-regulated protein FrpC, truncation 370878 371150
NMB0366 hypothetical protein 372373 371243
NMB0367 hypothetical protein 372823 372440
NMB0368 hypothetical protein 373350 372895
NMB0369 hypothetical protein 373720 373334
NMB0370 hypothetical protein 374229 373855
NMB0371 hypothetical protein 374658 374254
NMB0372 hypothetical protein 375341 374667
NMB0373 hypothetical protein 375915 375559
NMB0374 MafB-related protein 377321 375921
NMB0375 mafA protein 378266 377328
NMB0376 hypothetical protein 378379 378266
NMB0377 conserved hypothetical protein 379516 378389
NMB0378 phosphate permease, putative 379807 381378
NMB0379 oxygen-independent coproporphyrinogen III oxidase 383155 381737
NMB0380 transcriptional regulator, Crp/Fnr family 383360 384091
NMB0381 cys regulon transcriptional activator 385157 384210
NMB0382 outer membrane protein class 4 385521 386246
NMB0383 hypothetical protein 386270 386494
NMB0384 hypothetical protein 386773 387066
NMB0385 thiamin-monophosphate kinase 387100 388053
NMB0386 phosphatidylglycerophosphatase A 388049 388531
NMB0387 ABC transporter, ATP-binding protein 390270 388597
NMB0388 sugar transporter, putative 390657 392009
NMB0389 aldose 1-epimerase 392016 393023
NMB0390 maltose phosphorylase 393260 395515
NMB0391 beta-phosphoglucomutase 395531 396193
NMB0392 l-aspartate oxidase 397882 396377
NMB0393 multidrug resistance protein 398266 397934
NMB0394 quinolinate synthetase A 399530 398421
NMB0395 conserved hypothetical protein 399732 400667
NMB0396 nicotinate-nucleotide pyrophosphorylase 400888 401766
NMB0397 hypothetical protein 401797 402081
NMB0398 transcriptional regulator, ArsR family 402176 402454
NMB0399 exodeoxyribonuclease III 402517 403284
NMB0400 transposase, truncated 404230 404799
NMB0401 proline dehydrogenase 409441 405839
NMB0402 sodium/proline symporter 411216 409693
NMB0403 hypothetical protein 411644 411555
NMB0404 conserved hypothetical protein 411699 412016
NMB0405 competence protein ComM 412033 413526
NMB0406 conserved hypothetical protein 413629 414495
NMB0407 thiol:disulfide interchange protein DsbA 414501 415142
NMB0408 bacitracin resistance protein 415178 415996
NMB0409 conserved hypothetical protein 417783 416575
NMB0410 conserved hypothetical protein 418062 418514
NMB0411 conserved hypothetical protein 418514 419497
NMB0412 cell division protein FtsL-related protein 419491 419757
NMB0413 penicillin-binding protein 2 419821 421563
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        421591 423066
NMB0415 conserved hypothetical protein FRAMESHIFT 423092 424736
NMB0416 UDP-N-acetylmuramoylalanyl-D-glutamyl-2,6-diaminopimelate--D-
        alanyl-D- alanyl ligase 424864 426228
NMB0417 hypothetical protein 426234 426407
NMB0418 phospho-N-acetylmuramoyl-pentapeptide-transferase 426657 427736
NMB0419 conserved hypothetical protein 427865 428458
NMB0420 UDP-N-acetylmuramoylalanine--D-glutamate ligase 428545 429879
NMB0421 cell division protein FtsW 430062 431330
NMB0422 UDP-N-acetylglucosamine--N-acetylmuramyl-(pentapeptide)
        pyrophosphoryl-undecaprenol N-acetylglucosamine transferase
        431337 432401
NMB0423 UDP-N-acetylmuramate--alanine ligase 432559 433965
NMB0424 D-alanine--D-alanine ligase 434081 434992
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NMB0425 cell division protein FtsQ 435006 435710
NMB0426 cell division protein FtsA 435799 437040
NMB0427 cell division protein FtsZ 437162 438337
NMB0428 conserved hypothetical protein 438479 439786
NMB0429 hypothetical protein 440162 440263
NMB0430 carboxyphosphonoenolpyruvate phosphonomutase, putative 440412
        441287
NMB0431 methylcitrate synthase/citrate synthase 2 441376 442527
NMB0432 conserved hypothetical protein 442683 443468
NMB0433 aconitate hydratase 1 443549 446152
NMB0434 conserved hypothetical protein 446958 448124
NMB0435 acetate kinase 448541 449737
NMB0436 conserved hypothetical protein 450078 450716
NMB0437 conserved hypothetical protein 451289 450849
NMB0438 hypothetical protein 451643 451828
NMB0439 conserved hypothetical protein 451876 453027
NMB0440 prephenate dehydrogenase, putative 453959 453090
NMB0441 nitrilase 454044 454853
NMB0442 opacity protein FRAMESHIFT 455681 454888
NMB0443 transposase, IS30 family 456456 457418
NMB0444 conserved hypothetical protein 457979 458830
NMB0445 bicyclomycin resistance protein, putative 459352 460581
NMB0446 chorismate mutase/prephenate dehydratase 460662 461747
NMB0447 DNA repair protein RecO 461587 462575
NMB0448 pyridoxal phosphate biosynthetic protein PdxJ 462602 463327
NMB0449 hypothetical protein 463482 463703
NMB0450 hypothetical protein 463968 464411
NMB0451 hypothetical protein 464424 465188
NMB0452 holo-(acyl-carrier protein) synthase 465391 465765
NMB0453 mutT protein 465850 466656
NMB0454 hypothetical protein 466652 467071
NMB0455 conserved hypothetical protein 467123 468262
NMB0456 N-acetylmuramoyl-L-alanine amidase 469573 468326
NMB0457 conserved hypothetical protein 470031 469573
NMB0458 glutamate racemase 470233 471042
NMB0459 conserved hypothetical protein 473202 472096
NMB0460 transferrin-binding protein 2 475573 477708
NMB0461 transferrin-binding protein 1 477798 480542
NMB0462 spermidine/putrescine ABC transporter, periplasmic
        spermidine/putrescine-binding protein 483195 481819
NMB0463 30S ribosomal protein S20 483261 483521
NMB0464 phospholipase A1, putative 483685 484830
NMB0465 conserved hypothetical protein 484976 485674
NMB0466 aspartyl-tRNA synthetase 485735 487540
NMB0467 hypothetical protein 487694 487975
NMB0468 biosynthetic arginine decarboxylase 488145 490034
NMB0469 agmatinase 490136 491056
NMB0470 C4-dicarboxylate transporter 491257 492720
NMB0471 conserved hypothetical protein 494006 492933
NMB0472 8-amino-7-oxononanoate synthase 494229 495368
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NMB0474 biotin synthesis protein BioC, putative 496016 496795
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NMB0476 hypothetical protein 498457 499551
NMB0477 conserved hypothetical protein 499566 500099
NMB0478 hypothetical protein 500104 500745
NMB0479 conserved hypothetical protein 500771 501127
NMB0480 TspB-related protein 502193 501801
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NMB0482 hypothetical protein 502900 502625
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NMB0484 hypothetical protein 503396 503202
NMB0485 hypothetical protein 503691 503404
NMB0486 conserved hypothetical protein FRAMESHIFT 505078 503739
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NMB0487 hypothetical protein 505244 505152
NMB0488 hypothetical protein 505800 505309
NMB0489 hypothetical protein 506682 505804
NMB0490 PspA-related protein 507809 506910
NMB0491 hypothetical protein 508744 508304
NMB0492 hypothetical protein 509383 509063
NMB0493 hemagglutinin/hemolysin-related protein 517494 509386
NMB0494 DNA helicase, truncation 518107 517625
NMB0495 replication protein 519187 518207
NMB0496 hemolysin activator-related protein 519134 520810
NMB0497 hemagglutinin/hemolysin-related protein 520922 526826
NMB0498 hypothetical protein 526836 527342
NMB0499 hypothetical protein 527471 529090
NMB0500 hypothetical protein 529102 529476
NMB0501 hypothetical protein 529757 530128
NMB0502 hypothetical protein 530166 532115
NMB0503 hypothetical protein 532134 532562
NMB0504 hypothetical protein 532780 532992
NMB0505 hypothetical protein 533691 535208
NMB0506 hypothetical protein 533691 535208
NMB0507 hypothetical protein 535208 535693
NMB0508 hypothetical protein 535883 536152
NMB0509 hypothetical protein 536335 537114
NMB0510 hypothetical protein 537136 537396
NMB0511 hypothetical protein 537506 539425
NMB0512 hypothetical protein 539437 539856
NMB0513 hypothetical protein 539896 540294
NMB0514 hypothetical protein 540420 540656
NMB0515 hypothetical protein 540656 541036
NMB0516 hypothetical protein 541042 541974
NMB0517 hypothetical protein 542172 542020
NMB0518 hypothetical protein 542486 542734
NMB0519 hypothetical protein 542725 542925
NMB0520 hypothetical protein 542931 543107
NMB0521 hypothetical protein 543492 543947
NMB0522 transposase, truncated 543958 544080
NMB0523 ABC transporter, ATP-binding protein, truncation 544162 544441
NMB0524 ribonuclease BN, putative 545691 544474
NMB0525 aluminum resistance protein, putative 546236 546892
NMB0526 hypothetical protein 546923 547438
NMB0527 6-pyruvoyl tetrahydrobiopterin synthase, putative 547448 547867
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NMB0529 conserved hypothetical protein 548507 549142
NMB0530 glycosyl hydrolase, family 3 550869 549787
NMB0531 conserved hypothetical protein 552446 550929
NMB0532 protease DO 554147 552651
NMB0533 endonuclease III 554914 554288
NMB0534 conserved hypothetical protein 555373 554963
NMB0535 glucose/galactose transporter 555906 557183
NMB0536 Na+/H+ antiporter 557477 558853
NMB0537 conserved hypothetical protein 559809 558988
NMB0538 conserved hypothetical protein 560326 559820
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NMB0540 aspartate aminotransferase 562977 561787
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NMB0545 conserved hypothetical protein 566870 570352
NMB0546 alcohol dehydrogenase, propanol-preferring 571566 570523
NMB0547 type IV pilin protein 572238 571852
NMB0548 AcrA/AcrE family protein 572464 573639
NMB0549 ABC transporter, ATP-binding protein 573708 575639
NMB0550 thiol:disulfide interchange protein DsbC 576837 576058
NMB0551 primosomal protein n` 576975 579161
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NMB0552 hypothetical protein 580284 579214
NMB0553 transposase, putative, POINT MUTATION 581288 580335
NMB0554 dnaK protein 584451 582526
NMB0555 hypothetical protein 584931 584662
NMB0556 repressor protein, putative 585119 585802
NMB0557 conserved hypothetical protein 585937 586272
NMB0558 hypothetical protein 586435 586896
NMB0559 ubiquinone biosynthesis protein AarF 586934 588442
NMB0560 serine acetyltransferase 589620 588805
NMB0561 grpE protein 589804 590379
NMB0562 conserved hypothetical protein 590874 590662
NMB0563 thiamine biosynthesis lipoprotein ApbE 591955 590903
NMB0564 Na(+)-translocating NADH-quinone reductase, subunit F 593325
        592111
NMB0565 Na(+)-translocating NADH-quinone reductase, subunit E 593932
        593342
NMB0566 Na(+)-translocating NADH-quinone reductase, subunit D 594562
        593939
NMB0567 Na(+)-translocating NADH-quinone reductase, subunit C 595338
        594565
NMB0568 Na(+)-translocating NADH-quinone reductase, subunit B 596563
        595334
NMB0569 Na(+)-translocating NADH-quinone reductase, subunit A 597909
        596569
NMB0570 hypothetical protein 599680 598262
NMB0571 conserved hypothetical protein 600400 600044
NMB0572 hypothetical protein 601002 600400
NMB0573 transcriptional regulator, AsnC family 601612 601052
NMB0574 glycine cleavage system T protein 602042 603139
NMB0575 glycine cleavage system H protein 603304 603687
NMB0576 glutamyl-tRNA reductase 603842 605086
NMB0577 NosR-related protein 605365 605934
NMB0578 copper ABC transporter, periplasmic copper-binding protein 605991
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NMB0579 copper ABC transporter, ATP-binding protein 607083 607700
NMB0580 protein disulfide isomerase NosL, putative 607842 608333
NMB0581 electron transfer flavoprotein-ubiquinone oxidoreductase 610085
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NMB0582 bacteriocin resistance protein, putative 610757 610218
NMB0583 IS1016C2 transposase 612651 611986
NMB0584 FrpC operon protein 613242 614054
NMB0585 iron-regulated protein FrpA, putative 614074 617979
NMB0586 adhesin, putative 619176 618265
NMB0587 membrane protein 620128 619256
NMB0588 ABC transporter, ATP-binding protein 620907 620155
NMB0589 50s ribosomal protein L19 621563 621201
NMB0590 tRNA (guanine-N1)-methyltransferase FRAMESHIFT 622329 621582
NMB0591 16S rRNA processing protein RimM 622838 622332
NMB0592 30S ribosomal protein S16 623099 622857
NMB0593 conserved hypothetical protein 625570 623147
NMB0594 sensor histidine kinase 627094 625691
NMB0595 DNA-binding response regulator 627785 627111
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NMB0603 phosphoribosyl-ATP cyclohydrolase 633244 632924
NMB0604 alcohol dehydrogenase, zinc-containing 634449 633388
NMB0605 histone deacetylase family protein 636107 635001
NMB0606 conserved hypothetical protein 636235 636498
NMB0607 protein-export membrane protein SecD 636710 638563
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NMB0608 protein-export membrane protein SecF 638570 639502
NMB0609 30s ribosomal protein S15 639728 639994
NMB0610 spermidine/putrescine ABC transporter, ATP-binding protein 640243
        641499
NMB0611 spermidine/putrescine ABC transporter, permease protein 641518
        642480
NMB0612 spermidine/putrescine ABC transporter, permease protein 642483
        643367
NMB0613 hypothetical protein 643392 643496
NMB0614 oxidoreductase, putative 643496 644788
NMB0615 ammonium transporter AmtB, putative 646340 645039
NMB0616 IS1016 family transposase, degenerate 647272 646871
NMB0617 transcription termination factor Rho 648837 647581
NMB0618 phosphoenolpyruvate synthase 651441 649060
NMB0619 conserved hypothetical protein 651853 652671
NMB0620 phosphoglycolate phosphatase 653575 652916
NMB0621 conserved hypothetical protein 654440 653616
NMB0622 outer membrane lipoprotein carrier protein 654867 655487
NMB0623 spermidine/putrescine ABC transporter, periplasmic
        spermidine/putrescine-binding protein 655763 656899
NMB0624 galactosyltransferase-related protein FRAMESHIFT 657035 658253
NMB0625 conserved hypothetical protein 658297 658824
NMB0626 peptide chain release factor 3 660797 659205
NMB0627 phosphoribosyl-AMP cyclohydrolase 661299 660907
NMB0628 hisF protein 662097 661333
NMB0629 phosphoribosylformimino-5-aminoimidazole carboxamide ribotide
        isomerase 662847 662113
NMB0630 amidotransferase HisH 663518 662883
NMB0631 phosphate acetyltransferase Pta, putative 665151 663652
NMB0632 iron(III) ABC transporter, ATP-binding protein 666394 665339
NMB0633 iron(III) ABC transporter, permease protein 667932 666418
NMB0634 iron(III) ABC transporter, periplasmic binding protein 668995
        668003
NMB0635 transposase, IS30 family 670247 669285
NMB0636 hypothetical protein 670794 670414
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NMB0648 hypothetical protein 680357 680776
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NMB0660 hypothetical protein 686929 687315
NMB0661 bis(5'-nucleosyl)-tetraphosphatase, symmetrical/Trk system
        potassium uptake protein TrkG FRAMESHIFT 689659 687362
        NMB0662 ribonuclease, putative 690126 689740
NMB0663 outer membrane protein NsgA 690786 690265
NMB0664 hypothetical protein 691151 690960

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NMB0665 oxygen-independent coprophorphyrinogen III oxidase family protein
        692546 691374
NMB0666 DNA ligase 695128 692606
NMB0667 hypothetical protein 696562 695279
NMB0668 ampD protein 697352 696783
NMB0669 conserved hypothetical protein 697436 698428
NMB0670 thymidylate kinase 698491 699108
NMB0671 malate oxidoreductase (NAD) 699333 700610
NMB0672 tetraacyldisaccharide 4'-kinase 701160 702191
NMB0673 hypothetical protein 702394 702978
NMB0674 conserved hypothetical protein 703050 703229
NMB0675 3-deoxy-D-manno-octulosonate cytidylyltransferase 703229 703987
NMB0676 hypothetical protein 704013 704411
NMB0677 hypothetical protein 704610 704723
NMB0678 tryptophan synthase, alpha subunit 705306 706088
NMB0679 acetyl-CoA carboxylase, carboxyl transferase beta subunit 706129
        706998
NMB0680 cryptic protein 707672 707064
NMB0681 conserved hypothetical protein 707781 708002
NMB0682 dihydroorotase 708368 709399
NMB0683 N utilization substance protein B 710195 709773
NMB0684 riboflavin synthase, beta subunit 710749 710276
NMB0685 hypothetical protein 711120 710800
NMB0686 ribonuclease III 711287 712003
NMB0687 GTP-binding protein Era 712003 712974
NMB0688 N-(5'-phosphoribosyl)anthranilate isomerase 715446 714823
NMB0689 transcription elongation factor GreB 715996 715508
NMB0690 amidophosphoribosyltransferase 717640 716099
NMB0691 colicin V production protein, putative 718450 717956
NMB0692 tpc protein 719441 718446
NMB0693 folylpolyglutamate synthase/dihydrofolate synthase 720728 719457
NMB0694 folI protein 721205 720762
NMB0695 hypothetical protein 721569 721213
NMB0696 amino acid ABC transporter, ATP-binding protein FRAMESHIFT 722369
        721645
NMB0697 dimethyladenosine transferase 723321 722545
NMB0698 hypothetical protein 723518 724204
NMB0699 tryptophan synthase, beta subunit 724290 725489
NMB0700 IgA-specific serine endopeptidase 731118 725674
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NMB0703 competence lipoprotein ComL 735635 734835
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NMB0705 transporter 737858 736914
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NMB0707 rare lipoprotein B, putative 739249 739725
NMB0708 DNA polymerase III, delta subunit 739730 740725
NMB0709 Hypothetical protein 740849 741265
NMB0710 Hypothetical protein 741293 741856
NMB0711 conserved hypothetical protein FRAMESHIFT 742826 741946
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NMB0714 conserved hypothetical protein FRAMESHIFT 746771 746019
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NMB0716 Hypothetical protein 747440 747727
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NMB0720 threonyl-tRNA synthetase 751005 752915
NMB0721 translation initiation factor 3 752990 753454
NMB0722 50S ribosomal protein L35 753604 753798
NMB0723 50S ribosomal protein L20 753814 754170
NMB0724 phenylalanyl-tRNA synthetase, alpha chain 754519 755508
NMB0725 modification methylase HgaI-1 755694 756749

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NMB0726 type II restriction enzyme HgaI 756755 758221
NMB0727 N-6 adenine-specific DNA methylase 758221 758868
NMB0728 phenylalanyl-tRNA synthetase, beta chain 758896 761256
NMB0729 integration host factor, alpha subunit 761333 761632
NMB0730 hypothetical protein 762257 762739
NMB0731 hypothetical protein 763002 763226
NMB0732 adenosylmethionine-8-amino-7-oxononanoate aminotransferase 763559
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NMB0733 dethiobiotin synthase 764857 765501
NMB0734 hypothetical protein 765519 765992
NMB0735 4-hydroxybenzoate octaprenyltransferase 766025 766912
NMB0736 PTS system, nitrogen regulatory IIA protein 767100 767546
NMB0737 HPr kinase/phosphatase, putative 767551 768510
NMB0738 conserved hypothetical protein 768494 769345
NMB0739 conserved hypothetical protein 769429 770943
NMB0740 DNA repair protein RecN 771255 772925
NMB0741 conserved hypothetical protein 775384 773948
NMB0742 conserved hypothetical protein 775684 776040
NMB0743 ubiquinone/menaquinone biosynthesis methlytransferase UbiE 776097
        776831
NMB0744 hypothetical protein 777054 777530
NMB0745 2-amino-4-hydroxy-6-hydroxymethyldihydropteridine-
        pyrophosphokinase 778153 777662
NMB0746 conserved hypothetical protein 778537 778166
NMB0747 conserved hypothetical protein 779157 778594
NMB0748 host factor-I 779535 779245
NMB0749 penicillin-binding protein 4 780602 779667
NMB0750 bacterioferritin comigratory protein 780923 781360
NMB0751 integrase/recombinase XerD 781415 782287
NMB0752 bacterioferritin-associated ferredoxin, putative 782462 782659
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NMB0754 hypothetical protein 783066 783173
NMB0755 hypothetical protein 783194 783334
NMB0756 dTDP-L-rhamnose synthase, putative 784398 783481
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NMB0759 conserved hypothetical protein 788619 787894
NMB0760 diaminopimelate epimerase 789006 789854
NMB0761 hypothetical protein 789940 790164
NMB0762 hypothetical protein 790198 790653
NMB0763 cysteine synthase 790653 791582
NMB0764 conserved hypothetical protein 792048 792950
NMB0765 signal peptidase I 794128 793112
NMB0766 GTP-binding protein LepA 794064 794274
NMB0767 5-methylthioadenosine nucleosidase/S-adenosylhomocysteine
        nucleosidase 796909 796211
NMB0768 twitching motility protein PilT 797095 798204
NMB0769 DNA polymerase III, delta prime subunit, putative 798241 799215
NMB0770 type IV pilus assembly protein PilZ, putative 799222 799569
NMB0771 conserved hypothetical protein 799577 800353
NMB0772 conserved hypothetical protein 800382 800594
NMB0773 conserved hypothetical protein 800698 801006
NMB0774 uracil phosphoribosyltransferase 801115 801738
NMB0775 hypothetical protein 801764 802081
NMB0776 conserved hypothetical protein 802335 802751
NMB0777 uroporphyrinogen-III synthase HemD, putative 802796 803533
NMB0778 uroporphyrin-III C-methyltransferase HemX, putative 803611 804882
NMB0779 hypothetical protein 804882 806102
NMB0780 hypothetical protein 806138 806575
NMB0781 uroporphyrinogen decarboxylase 806732 807793
NMB0782 DNA repair protein RadA 807982 809358
NMB0783 conserved hypothetical protein 810116 809640
NMB0784 phage shock protein E precursor, putative 810717 810361
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NMB0785 exodeoxyribonuclease V 135 KD polypeptide 814370 810759
NMB0786 conserved hypothetical protein 815358 814453
NMB0787 amino acid ABC transporter, periplasmic amino acid-binding protein
        815643 816467
NMB0788 amino acid ABC transporter, permease protein 816514 817173
NMB0789 amino acid ABC transporter, ATP-binding protein 817186 817938
NMB0790 phosphoglucomutase 819343 817964
NMB0791 peptidyl-prolyl cis-trans isomerase 820019 819513
NMB0792 transporter, NadC family 821553 820141
NMB0793 hypothetical protein 821759 821553
NMB0794 hypothetical protein 822146 821787
NMB0795 peptidyl-tRNA hydrolase 822988 822413
NMB0796 conserved hypothetical protein 823319 823044
NMB0797 conserved hypothetical protein 823749 823315
NMB0798 cell division protein FtsH 825932 823968
NMB0799 cell division protein FtsJ 826616 825999
NMB0800 conserved hypothetical protein 826726 827007
NMB0801 delta-aminolevulinic acid dehydratase 827193 828191
NMB0802 cystathionine gamma-synthase 829414 828260
NMB0803 conserved hypothetical protein 829606 830376
NMB0804 NAD(P)H nitroreductase, putative 830489 831151
NMB0805 transposase, IS30 family 831295 832257
NMB0806 conserved hypothetical protein 833050 832295
NMB0807 conserved hypothetical protein 833965 833078
NMB0808 hypothetical protein 834551 833988
NMB0809 conserved hypothetical protein 835399 834605
NMB0810 transcriptional regulator, TetR family 836104 835457
NMB0811 UDP-N-acetylpyruvoylglucosamine reductase 837156 836119
NMB0812 conserved hypothetical protein 838579 837203
NMB0813 hypothetical protein 838634 838819
NMB0814 histidyl-tRNA synthetase 838914 840062
NMB0815 adenylosuccinate synthetase 840163 841464
NMB0816 hypothetical protein 841592 841903
NMB0817 hypothetical protein 841932 842312
NMB0818 hypothetical protein 842329 842736
NMB0819 hypothetical protein 842856 843245
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NMB0821 hypothetical protein 843962 844519
NMB0822 heat shock protein HtpX 845866 844826
NMB0823 adenylate kinase 845878 846522
NMB0824 orotidine 5`-phosphate decarboxylase 847051 847788
NMB0825 ADP-heptose synthase, putative 847846 848814
NMB0826 C-5 cytosine-specific DNA methylase 848854 850086
NMB0827 type II restriction enzyme-related protein FRAMESHIFT 850091
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NMB0828 ADP-L-glycero-D-mannoheptose-6-epimerase 851251 852252
NMB0829 type I restriction enzyme EcoR124II M protein 852329 853870
NMB0830 conserved hypothetical protein 853870 854877
NMB0831 type I restriction enzyme S protein, degenerate 855046 856216
NMB0832 anticodon nuclease 856277 857416
NMB0833 type I restriction enzyme-related protein 857416 857799
NMB0834 transposase, IS30 family 858756 857794
NMB0835 type I restriction enzyme EcoR124II R protein, putative 858832
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NMB0836 ATP-dependent Clp protease, ATP-binding subunit ClpA 863945 861639
NMB0837 conserved hypothetical protein 864249 863950
NMB0838 cold-shock domain family protein 864492 864692
NMB0839 pmbA protein 866323 864995
NMB0840 conserved hypothetical protein 866446 866979
NMB0841 hypothetical protein 867029 867742
NMB0842 single-stranded-DNA-specific exonuclease RecJ 867814 869511
NMB0843 polyA polymerase 869811 871169
NMB0844 hypothetical protein 871345 871665
NMB0845 PhoH-related protein 872732 871782
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NMB0846 LPS biosynthesis protein-related protein 873905 872874
NMB0847 hypothetical protein 874235 874065
NMB0848 hypothetical protein 874369 875114
NMB0849 deoxycytidine triphosphate deaminase, putative 875703 875140
NMB0850 hypothetical protein 876185 875772
NMB0851 recombination associated protein RdgC 877146 876250
NMB0852 essential GTPase 878634 877180
NMB0853 conserved hypothetical protein 879413 878787
NMB0854 histidyl-tRNA synthetase 880709 879417
NMB0855 bacteriocin resistance protein, putative 881459 880806
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NMB0857 hypothetical protein 882441 882268
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NMB0863 hypothetical protein 884410 884141
NMB0864 hypothetical protein 884966 884679
NMB0865 hypothetical protein 885445 884975
NMB0866 hypothetical protein 886357 885491
NMB0867 YabO/YceC/SfhB family protein 886521 887441
NMB0868 conserved hypothetical protein 888163 887525
NMB0869 hypothetical protein 889009 888221
NMB0870 3-methyl-2-oxobutanoate hydroxymethyltransferase 889502 890290
NMB0871 pantoate--beta-alanine ligase 890416 891249
NMB0872 conserved hypothetical protein 891416 893257
NMB0873 outer membrane lipoprotein LolB, putative 893400 893978
NMB0874 conserved hypothetical protein 893991 894833
NMB0875 ribose-phosphate pyrophosphokinase 895258 896238
NMB0876 50S ribosomal protein L25 896308 896877
NMB0877 penicillin-binding protein 898174 897008
NMB0878 threonine dehydratase 898322 899845
NMB0879 sulfate ABC transporter, ATP-binding protein 900978 899908
NMB0880 sulfate ABC transporter, permease protein 900835 900978
NMB0881 sulfate ABC transporter, permease protein 902923 902090
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NMB0884 superoxide dismutase 905491 904907
NMB0885 replicative DNA helicase 905655 907058
NMB0886 fimbrial protein FimT 907370 908035
NMB0887 type IV pilus assembly protein PilV, putatve 908056 908667
NMB0888 hypothetical protein 908667 909605
NMB0889 hypothetical protein 909587 910177
NMB0890 type IV pilin-related protein 910170 910655
NMB0891 hypothetical protein 911708 911944
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NMB0893 deoxyuridine 5`-triphosphate nucleotidohydrolase 912995 913444
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NMB0895 conserved hypothetical protein 914975 915751
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NMB0903 hypothetical protein 921429 921139
NMB0904 hypothetical protein 921686 921429
NMB0905 hypothetical protein 921936 921724
NMB0906 hypothetical protein 922860 922009
NMB0907 hypothetical protein 923244 922888
NMB0908 hypothetical protein 923512 923315
NMB0909 hypothetical protein 924280 923759

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NMB0910 transcriptional regulator 925000 924287
NMB0911 transposase, IS30 family 926382 925420
NMB0912 hypothetical protein 926526 927149
NMB0913 pemK protein 927552 927208
NMB0914 pemI protein 927790 927557
NMB0915 hypothetical protein 928640 928152
NMB0916 hypothetical protein 928799 928662
NMB0917 death-on-curing protein 929446 929081
NMB0918 hypothetical protein 929574 929446
NMB0919 IS1106 transposase, putative 930929 929973
NMB0920 isocitrate dehydrogenase 934317 932095
NMB0921 hypothetical protein 934522 934325
NMB0922 alpha-2,3-sialyltransferase 934750 935862
NMB0923 cytochrome c 936488 936033
NMB0924 oxidoreductase, short-chain dehydrogenase/reductase family 936607
        937425
NMB0925 acyl CoA thioester hydrolase family protein 937925 937482
NMB0926 opacity protein 940336 939513
NMB0927 proline iminopeptidase 941840 942769
NMB0928 hypothetical protein 944025 942832
NMB0929 dihydrodipicolinate synthase 944909 944037
NMB0930 xanthine/uracil permease family protein 945369 946757
NMB0931 RNA methyltransferase, TrmH family 947574 946825
NMB0932 conserved hypothetical protein 948129 947644
NMB0933 cytidine and deoxycytidylate deaminase family protein 948580
        948137
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NMB0935 tRNA delta(2)-isopentenylpyrophosphate transferase 949798 948860
NMB0936 hypothetical protein 951481 950180
NMB0937 elongation factor P (EF-P) 951788 952345
NMB0938 hypothetical protein 953235 952402
NMB0939 conserved hypothetical protein 953933 953355
NMB0940 homoserine O-acetyltransferase 955069 953933
NMB0941 50S ribosomal protein L36 955756 955634
NMB0942 50S ribosomal protein L31, putative 956031 955759
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NMB0944 5-methyltetrahydropteroyltriglutamate-homocysteine
        methyltransferase 957247 959520
NMB0945 hypothetical protein 959535 959696
NMB0946 peroxiredoxin 2 family protein/glutaredoxin 959802 960536
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NMB0948 succinate dehydrogenase, cytochrome b556 subunit 962470 962844
NMB0949 succinate dehydrogenase, hydrophobic membrane anchor protein
        962841 963179
NMB0950 succinate dehydrogenase, flavoprotein subunit 963185 964945
NMB0951 succinate dehydrogenase, iron-sulfur protein 965068 965772
NMB0952 conserved hypothetical protein 965779 966024
NMB0953 hypothetical protein 966024 966104
NMB0954 citrate synthase 966139 967419
NMB0955 2-oxoglutarate dehydrogenase, E1 component 967627 970452
NMB0956 2-oxoglutarate dehydrogenase, E2 component, dihydrolipoamide
        succinyltransferase 970555 971733
NMB0957 2-oxoglutarate dehydrogenase, E3 component, lipoamide
        dehydrogenase 972101 973531
NMB0958 hypothetical protein 973659 973943
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NMB0960 succinyl-CoA synthetase, alpha subunit 975222 976109
NMB0961 funZ protein 978267 976675
NMB0962 excinuclease ABC, subunit A 981150 978304
NMB0963 phosphatidylserine decarboxylase precursor-related protein 981305
        982099
NMB0964 TonB-dependent receptor 985503 983230
NMB0965 hypothetical protein 985832 985564
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        II 985925 986512
NMB0967 anthranilate phosphoribosyltransferase 986579 987634
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NMB0969 hypothetical protein 988030 987792
NMB0970 conserved hypothetical protein, FRAMESHIFT 988106 989527
NMB0971 hypothetical protein 989493 989780
NMB0972 hypothetical protein 989788 989982
NMB0973 hypothetical protein 989993 990274
NMB0974 hypothetical protein 990284 990559
NMB0975 hypothetical protein 990690 991004
NMB0976 TspB-related protein 990991 991383
NMB0977 modulator of drug activity B, putative 991676 992146
NMB0978 NAD(P) transhydrogenase, beta subunit 993742 992360
NMB0979 hypothetical protein 994205 993825
NMB0980 NAD(P) transhydrogenase, alpha subunit 995750 994212
NMB0981 phosphoserine phosphatase 996040 996870
NMB0982 chloride channel protein-related protein 997018 998157
NMB0983 phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP
        cyclohydrolase 998324 999901
NMB0984 transposase, putative, degenerate 1000517 1001457
NMB0985 E16-related protein 1001522 1002016
NMB0986 hypothetical protein 1001997 1002425
NMB0987 N-acetylmuramoyl-L-alanine amidase, putative 1002736 1003278
NMB0988 hypothetical protein 1003278 1003478
NMB0989 hypothetical protein 1003484 1003645
NMB0990 hypothetical protein 1003859 1004260
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NMB0992 adhesin 1007326 1005554
NMB0993 rubredoxin 1009428 1009261
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NMB0995 macrophage infectivity potentiator-related protein 1012020 1011340
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NMB0998 oxidoreductase, putative 1014921 1018751
NMB0999 NifR3/SMM1 family protein 1018935 1019933
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NMB1002 hypothetical protein 1024370 1023498
NMB1003 hypothetical protein 1024711 1024418
NMB1004 hypothetical protein 1024962 1024720
NMB1005 hypothetical protein 1025179 1024958
NMB1006 hypothetical protein 1025360 1025184
NMB1007 transcriptional regulator 1025451 1025819
NMB1008 hypothetical protein 1025824 1026444
NMB1009 conserved hypothetical protein 1026440 1026631
NMB1010 hypothetical protein 1026658 1027218
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NMB1016 conserved hypothetical protein 1031794 1031192
NMB1017 sulfate ABC transporter, periplasmic sulfate-binding protein
        1033574 1032522
NMB1018 conserved hypothetical protein 1034162 1033683
NMB1019 phosphoribosylaminoimidazole carboxylase, ATPase subunit 1035345
        1034212
NMB1020 hypothetical protein 1035887 1035345
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NMB1022 transposase, IS30 family 1038444 1037482
NMB1023 conserved hypothetical protein 1039543 1038587
NMB1024 conserved hypothetical protein 1040502 1039639
NMB1025 conserved hypothetical protein 1040896 1040537
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NMB1026 conserved hypothetical protein 1040971 1041447
NMB1027 dnaJ protein, truncation 1041473 1042192
NMB1028 conserved hypothetical protein 1042197 1043069
NMB1029 aspartate ammonia-lyase 1044541 1043147
NMB1030 conserved hypothetical protein 1045565 1045005
NMB1031 3-isopropylmalate dehydrogenase 1046798 1045731
NMB1032 type II restriction enzyme NlaIV 1047563 1046835
NMB1033 modification methylase NlaIV 1048850 1047582
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NMB1035 hypothetical protein 1049982 1049731
NMB1036 3-isopropylmalate dehydratase, large subunit 1051488 1050082
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NMB1038 DNA repair protein RadC 1053220 1053894
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NMB1040 hypothetical protein 1054848 1056125
NMB1041 GTP-binding protein 1056133 1057308
NMB1042 cation transport ATPase, E1-E2 family 1057308 1059776
NMB1043 hypothetical protein 1059940 1060142
NMB1044 ferredoxin--NADP reductase 1061316 1060543
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NMB1046 threonine synthase 1063753 1062347
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NMB1048 hypothetical protein 1065918 1064452
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NMB1082 hypothetical protein 1103120 1103317
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NMB1098 I protein, putative 1114653 1115711
NMB1099 transposase, IS30 family 1116767 1115805
NMB1100 hypothetical protein 1116795 1117274
NMB1101 conserved hypothetical protein 1117277 1117696
NMB1102 hypothetical protein 1117746 1118336
NMB1103 hypothetical protein 1118336 1118530
NMB1104 phage sheath protein 1118536 1119942
NMB1105 hypothetical protein 1120010 1120384
NMB1106 hypothetical protein 1120391 1120753
NMB1107 hypothetical protein 1121610 1121011
NMB1108 hypothetical protein 1121780 1123933
NMB1109 phage virion protein, putative 1123936 1125264
NMB1110 tail protein, 43 kDa 1125257 1126399
NMB1111 baseplate assembly protein V, putative 1126399 1127064
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NMB1113 conserved hypothetical protein FRAMESHIFT 1127529 1128580
NMB1114 conserved hypothetical protein 1128580 1129137
NMB1115 tail fibre protein, putative 1129151 1131121
NMB1116 hypothetical protein 1131560 1132084
NMB1117 hypothetical protein 1132350 1132204
NMB1118 conserved hypothetical protein 1132762 1132478
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NMB1120 hypothetical protein 1133426 1133719
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NMB1146 biotin synthetase 1153923 1152874
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NMB1190 sulfite reductase (NADPH) flavoprotein, alpha component 1192963
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NMB1192 sulfate adenylyltransferase, subunit 2 1195208 1194288
NMB1155 phosphoadenosine phosphosulfate reductase 1163950 1163213
NMB1194 siroheme synthase 1197448 1196000
NMB1195 hypothetical protein 1197732 1197577
NMB1158 nickel-dependent hydrogenase, b-type cytochrome subunit 1166365
         1165712
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NMB1236 hypothetical protein 1243186 1243461
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NMB1246 conserved hypothetical protein 1253294 1252434

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NMB1250 transcriptional regulator, LuxR family 1256670 1257323
NMB1251 transposase, IS30 family 1258731 1257769
NMB1252 phosphoribosylformylglycinamidine cyclo-ligase 1259914 1258883
NMB1253 hypothetical protein 1260672 1261346
NMB1254 GTP cyclohydrolase II 1261342 1261932
NMB1255 glycosyl transferase, degenerate 1262256 1263263
NMB1256 GTP cyclohydrolase II/3,4-dihydroxy-2-butanone-4-phosphate
        synthase 1263728 1264816
NMB1257 site-specific DNA methylase, degenerate 1265357 1265130
NMB1258 conserved hypothetical protein 1267046 1265739
NMB1259 transposase, IS30 family 1267584 1268546
NMB1260 type III restriction-modification system EcoPI enzyme, subunit res
        1271565 1268629
NMB1261 type III restriction-modification system EcoPI enzyme, subunit mod
        POINT MUTATION FRAMESHIFT 1273661 1271581
NMB1262 peptidyl-prolyl cis-trans isomerase 1274334 1273780
NMB1263 CobW-related protein 1275316 1274402
NMB1264 conserved hypothetical protein 1275771 1275502
NMB1265 conserved hypothetical protein 1276061 1275771
NMB1266 zinc uptake regulation protein, putative 1276572 1276109
NMB1267 low molecular weight protein tyrosine-phosphatase 1277108 1276656
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NMB1275 hypothetical protein 1284642 1286083
NMB1276 long-chain-fatty-acid--CoA ligase 1286122 1287672
NMB1277 transporter, BCCT family 1289792 1287768
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NMB1285 enolase 1301171 1302454
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NMB1287 ferredoxin, putative 1303080 1302793
NMB1288 ribonucleoside-diphosphate reductase, beta subunit 1304479 1303328
NMB1289 type II restriction enzyme, putative 1305706 1304522
NMB1290 C-5 cytosine-specific DNA-methylase 1306712 1305702
NMB1291 ribonucleoside-diphosphate reductase, alpha subunit 1309049
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NMB1292 hypothetical protein 1309394 1309209
NMB1293 hypothetical protein 1309563 1309886
NMB1294 1-acyl-sn-glycerol-3-phosphate acyltransferase 1310967 1310203
NMB1295 formamidopyrimidine-DNA glycosylase 1311882 1311058
NMB1296 hypothetical protein 1312599 1311937
NMB1297 membrane-bound lytic murein transglycosylase D 1312778 1314751
NMB1298 ribosomal small subunit pseudouridine synthase A 1314822 1315511
NMB1299 sodium- and chloride-dependent transporter, degenerate 1316091
        1317454
NMB1300 cytidylate kinase 1317701 1318354
NMB1301 30S ribosomal protein S1 1318513 1320195
NMB1302 integration host factor, beta subunit 1320209 1320520
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NMB1303 transcriptional regulator, MerR family 1321281 1320877
NMB1304 alcohol dehydrogenase, class III 1321402 1322535
NMB1305 esterase, putative 1322547 1323371
NMB1306 conserved hypothetical protein 1323765 1324913
NMB1307 nucleoside diphosphate kinase 1324975 1325397
NMB1308 conserved hypothetical protein 1325543 1326634
NMB1309 fimbrial biogenesis and twitching motility protein, putative
        1326640 1327398
NMB1310 gcpE protein 1327417 1328679
NMB1311 hypothetical protein 1328970 1328737
NMB1312 ATP-dependent Clp protease, proteolytic subunit 1329655 1329128
NMB1313 trigger factor 1331148 1329838
NMB1314 cell division protein FtsK 1333791 1331356
NMB1315 uracil permease 1334014 1335222
NMB1316 hypothetical protein 1335289 1335726
NMB1317 hypothetical protein 1335865 1336266
NMB1318 CDP-diacylglycerol--serine O-phosphatidyltransferse 1336343
        1337086
NMB1319 conserved hypothetical protein 1337090 1337860
NMB1320 50S ribosomal protein L9 1338040 1338091
NMB1321 30S ribosomal protein S18 1338787 1338560
NMB1322 primosomal replication protein n, putative 1339096 1338797
NMB1323 30S ribosomal protein S6 1339465 1339100
NMB1324 thioredoxin reductase 1340571 1339624
NMB1325 cation transport ATPase, E1-E2 family 1340710 1342869
NMB1326 excinuclease ABC, subunit C 1342969 1344819
NMB1327 conserved hypothetical protein 1345045 1346445
NMB1328 conserved hypothetical protein 1346570 1347283
NMB1329 hypothetical protein 1347649 1347840
NMB1330 hypothetical protein 1348276 1347917
NMB1331 excinuclease ABC, subunit B 1350416 1348392
NMB1332 carboxy-terminal peptidase 1352229 1350748
NMB1333 conserved hypothetical protein 1354146 1352359
NMB1334 hypothetical protein 1354238 1354471
NMB1335 creA protein 1354474 1355031
NMB1336 conserved hypothetical protein 1355036 1355581
NMB1337 conserved hypothetical protein 1355577 1356029
NMB1338 isomerase, putative 1356698 1356045
NMB1339 prolyl-tRNA synthetase 1358473 1356764
NMB1340 hypothetical protein 1358924 1359151
NMB1341 pyruvate dehydrogenase, E1 component 1359167 1361827
NMB1342 pyruvate dehydrogenase, E2 component, dihydrolipoamide
        acetyltransferase FRAMESHIFT 1361979 1363583
NMB1343 hypothetical protein 1363680 1364114
NMB1344 pyruvate dehydrogenase, E3 component, lipoamide dehydrogenase
        1364135 1365916
NMB1345 hypothetical protein 1367830 1366283
NMB1346 TonB-dependent receptor, putative FRAMESHIFT 1369731 1367957
NMB1347 extragenic suppressor protein SuhB 1370786 1370004
NMB1348 RNA methylase, putative 1371030 1371842
NMB1349 hypothetical protein 1371906 1372740
NMB1350 hypothetical protein 1372967 1373305
NMB1351 fmu and fmv protein, putative 1373656 1374909
NMB1352 hypothetical protein 1375272 1375703
NMB1353 aldehyde dehydrogenase family protein 1377097 1375757
NMB1354 conserved hypothetical protein 1377755 1377105
NMB1355 glutamyl-tRNA (Gln) amidotransferase subunit C, putative 1377906
        1378193
NMB1356 Glu-tRNA(Gln) amidotransferase, subunit A 1378259 1379701
NMB1357 conserved hypothetical protein 1379701 1380630
NMB1358 Glu-tRNA(Gln) amidotransferase, subunit B 1380676 1382103
NMB1359 CDP-6-deoxy-delta-3,4-glucoseen reductase, putative 1382318
        1383325
NMB1360 pyridoxamine 5-phosphate oxidase 1384090 1383461

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NMB1361 conserved hypothetical protein 1384312 1385361
NMB1362 oxalate/formate antiporter, putative 1386974 1385436
NMB1363 exodeoxyribonuclease, large subunit 1388622 1387270
NMB1364 NH(3)-dependent NAD+ synthetase NadE, putative 1388819 1389637
NMB1365 conserved hypothetical protein 1390183 1389713
NMB1366 thioredoxin 1390481 1390810
NMB1367 conserved hypothetical protein 1391930 1390869
NMB1368 ATP-dependent RNA helicase, putative 1392141 1393526
NMB1369 hypothetical protein 1394572 1394021
NMB1370 hypothetical protein 1395217 1394860
NMB1371 acetylornithine aminotransferase 1395561 1396754
NMB1372 ATP-dependent Clp protease, ATP-binding subunit ClpX 1398104
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NMB1373 ribosome-binding factor A 1398295 1398663
NMB1374 tRNA pseudouridine synthase B 1398699 1399619
NMB1375 modification methylase, putative FRAMESHIFT 1399839 1401945
NMB1376 conserved hypothetical protein POINT MUTATION 1401938 1404712
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NMB1378 conserved hypothetical protein 1406327 1406770
NMB1379 nifS protein 1406802 1408013
NMB1380 nifU protein 1408280 1408663
NMB1381 HesB/YadR/YfhF family protein 1408693 1409070
NMB1382 conserved hypothetical protein 1409254 1409036
NMB1383 chaperone protein HscB 1409336 1409833
NMB1384 DNA gyrase subunit A 1409934 1412681
NMB1385 IS1016 family transposase, degenerate 1412841 1413241
NMB1386 transposase, putative FRAMESHIFT 1413303 1413955
NMB1387 hypothetical protein 1414840 1414292
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NMB1389 RpiR/YebK/YfhH family protein 1417469 1416624
NMB1390 glucokinase 1418505 1417522
NMB1391 oxidoreductase, Sol/DevB family 1419181 1418489
NMB1392 glucose-6-phosphate 1-dehydrogenase 1420906 1419464
NMB1393 phosphogluconate dehydratase 1421474 1423306
NMB1394 4-hydroxy-2-oxoglutarate aldolase/2-deydro-3-deoxyphosphogluconate
         aldolase 1423490 1424125
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NMB1401 IS1016C2 transposase 1432983 1432447
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NMB1404 hypothetical protein 1434021 1434746
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NMB1408 hypothetical protein 1437960 1438451
NMB1409 FrpA/C-related protein 1438582 1439007
NMB1410 hypothetical protein 1439247 1439783
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NMB1413 IS1016 family transposase, putative FRAMESHIFT 1442715 1442132
NMB1414 FrpC operon protein 1442798 1443568
NMB1415 iron-regulated protein FrpC 1443588 1449074
NMB1416 aminopeptidase N 1452022 1449422
NMB1417 conserved hypothetical protein 1452947 1452156
NMB1418 HtrB/MsbB family protein 1454563 1453697
NMB1419 crossover junction endodeoxyribonuclease RuvC 1455150 1454617
NMB1420 factor-for-inversion stimulation protein Fis, putative 1455392
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NMB1421 nifR3 protein 1456432 1455425

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NMB1422 ATP-dependent RNA helicase, putative 1456798 1458168
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NMB1424 hypothetical protein 1459903 1460928
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NMB1426 hypothetical protein 1463968 1462718
NMB1427 hypothetical protein 1464208 1464032
NMB1428 aminopeptidase, putative 1464426 1466219
NMB1429 outer membrane protein PorA 1468209 1467034
NMB1430 transcription elongation factor GreA 1470964 1470491
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NMB1433 conserved hypothetical protein FRAMESHIFT 1473237 1472707
NMB1434 cardiolipin synthetase family protein 1474971 1473448
NMB1435 drug resistance translocase family protein 1476489 1475086
NMB1436 conserved hypothetical protein 1476774 1477550
NMB1437 conserved hypothetical protein 1477550 1478248
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NMB1439 phosphoribosylaminoimidazole carboxylase, catalytic subunit
        1480370 1479888
NMB1440 hypothetical protein 1481131 1480421
NMB1441 O-methyltransferase, putative 1481799 1481134
NMB1442 mismatch repair protein MutL 1482139 1484112
NMB1443 DNA polymerase III, subunits gamma and tau 1484210 1486321
NMB1444 conserved hypothetical protein 1486404 1486736
NMB1445 recA protein 1489556 1488513
NMB1446 3-dehydroquinate dehydratase 1489810 1490571
NMB1447 ATP-dependent DNA helicase Rep 1490594 1492606
NMB1448 DNA-damage-inducible protein P 1493734 1492781
NMB1449 TonB-dependent receptor POINT MUTATION 1496967 1493881
NMB1450 ferredoxin--NADP reductase 1497241 1498017
NMB1451 DNA polymerase III, epsilon subunit 1499643 1498234
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NMB1453 hypothetical protein 1502335 1501847
NMB1454 ferredoxin, 4Fe-4S bacterial type 1503891 1502398
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NMB1456 hypothetical protein 1504347 1504153
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NMB1467 exopolyphosphatase 1516487 1517992
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NMB1469 hypothetical protein 1518607 1518527
NMB1470 hypothetical protein 1519392 1518850
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NMB1472 clpB protein 1520732 1523308
NMB1473 aminotransferase, class I 1524612 1523401
NMB1474 4-oxalocrotonate tautomerase, putative 1524910 1524704
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NMB1476 glutamate dehydrogenase, NAD-specific 1527384 1526122
NMB1477 hypothetical protein 1527562 1527396
NMB1478 phosphoglycolate phosphatase FRAMESHIFT 1527786 1528489
NMB1479 regulatory protein RecX 1528560 1529018
NMB1480 hypothetical protein 1529095 1529253
NMB1481 hypothetical protein 1529262 1529393
NMB1482 acyl CoA thioester hydrolase family protein 1529409 1529888
NMB1483 lipoprotein NlpD, putative 1531499 1530255
NMB1484 stationary-phase survival protein SurE 1532501 1531758
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NMB1485 conserved hypothetical protein 1534074 1532521
NMB1486 hypothetical protein 1534263 1534126
NMB1487 fimbrial assembly protein 1535230 1534445
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NMB1489 hypothetical protein 1537259 1537750
NMB1490 hypothetical protein 1538345 1537917
NMB1491 hypothetical protein 1538785 1538699
NMB1492 hypothetical protein 1538860 1538795
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NMB1495 hypothetical protein 1541371 1541562
NMB1496 conserved hypothetical protein 1541673 1542230
NMB1497 TonB-dependent receptor 1543234 1545996
NMB1498 aspartokinase, alpha and beta subunits 1549220 1548006
NMB1499 ribonuclease PH 1550148 1549423
NMB1500 conserved hypothetical protein 1550694 1550233
NMB1501 HesA/MoeB/ThiF family protein 1550911 1551684
NMB1502 hypothetical protein 1551825 1552349
NMB1503 hypothetical protein 1552608 1552814
NMB1504 conserved hypothetical protein 1552706 1553557
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NMB1508 hypothetical protein 1557130 1558584
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NMB1510 thermonuclease family protein 1561224 1560526
NMB1511 ribose 5-phosphate isomerase A 1561934 1561266
NMB1512 YgbB/YacN family protein 1562493 1562014
NMB1513 conserved hypothetical protein 1563214 1562528
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NMB1520 hypothetical protein 1570337 1569819
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NMB1522 FKBP-type peptidyl-prolyl cis-trans isomerase SlyD 1571803 1571324
NMB1523 hypothetical protein 1572276 1572569
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NMB1525 VirG-related protein FRAMESHIFT 1576262 1574233
NMB1526 small major protein B 1577081 1576638
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NMB1531 conserved hypothetical protein 1582961 1582344
NMB1532 conserved hypothetical protein 1583504 1582998
NMB1533 H.8 outer membrane protein 1584150 1583602
NMB1534 hypothetical protein 1584287 1584150
NMB1535 hypothetical protein 1584404 1584874
NMB1536 preprotein translocase SecA subunit 1584984 1587731
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NMB1538 RNA polymerase sigma factor RpoD 1589838 1591763
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NMB1540 lactoferrin-binding protein A 1597271 1594443
NMB1541 lactoferrin-binding protein B 1599481 1597271
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NMB1544 hypothetical protein 1602097 1602405
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NMB1547 hypothetical protein 1603107 1603406
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NMB1548 tspB protein, putative 1603741 1605384
NMB1549 hypothetical protein 1606176 1606325
NMB1550 conserved hypothetical protein 1606332 1606613
NMB1551 conserved hypothetical protein 1606617 1607717
NMB1552 pilin gene inverting protein PivNM-1A 1608019 1608972
NMB1553 transposase, truncation 1612202 1611708
NMB1554 CTP synthase 1613884 1612253
NMB1555 long-chain-fatty-acid--CoA ligase 1615666 1613999
NMB1556 tRNA (5-methylaminomethyl-2-thiouridylate) -methyltransferase
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NMB1557 conserved hypothetical protein 1617439 1616969
NMB1558 diacylglycerol kinase 1618115 1617735
NMB1559 glutathione synthetase 1619386 1618430
NMB1560 glutaminyl-tRNA synthetase 1621164 1619479
NMB1561 transcriptional regulator, DeoR family 1622049 1621279
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NMB1563 transcriptional regulator, GntR family 1623859 1623146
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NMB1565 hypothetical protein 1625639 1624971
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NMB1569 aminopeptidase A/I, FRAMESHIFT 1629499 1627971
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NMB1573 ornithine carbamoyltransferase, catabolic 1634663 1635655
NMB1574 ketol-acid reductoisomerase 1636895 1635885
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NMB1577 acetolactate synthase III, large subunit 1639564 1637840
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NMB1605 topoisomerase IV subunit A 1665137 1667437
NMB1606 sensor histidine kinase 1667460 1669033
NMB1607 sigma-54 dependent response regulator 1669029 1669493
NMB1608 conserved hypothetical protein 1669600 1670349
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NMB1610 hypothetical protein 1673766 1673008
NMB1611 hypothetical protein 1673866 1674114
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         1674169 1674972
NMB1613 fumarate hydratase, class I 1675282 1676802
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NMB1617 tellurite resistance protein, putative 1681480 1680614
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NMB1670 PqiA family protein 1743706 1745214

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NMB1677 cytochrome c5 1753288 1752452
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NMB1680 chorismate synthase 1756162 1757259
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NMB1685 D-lactate dehydrogenase 1762966 1761971
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NMB1730 TonB protein 1813661 1812822
NMB1731 conserved hypothetical protein 1813916 1814551
NMB1732 transporter, putative 1815806 1815009
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NMB1737 secretion protein, putative 1822426 1821026
NMB1738 secretion protein, putative 1823922 1822498
NMB1739 hypothetical protein 1824158 1824508
NMB1740 hypothetical protein 1824635 1825042
NMB1741 conserved hypothetical protein FRAMESHIFT 1825116 1826455
NMB1742 hypothetical protein 1826503 1826790
NMB1743 hypothetical protein 1826798 1826992
NMB1744 hypothetical protein 1827003 1827284
NMB1745 hypothetical protein 1827294 1827569
NMB1746 hypothetical protein 1827700 1827987
NMB1747 tspB protein, putative 1828031 1829533
NMB1748 conserved hypothetical protein 1829537 1829824
NMB1749 conserved hypothetical protein 1829837 1830919
NMB1750 pilin gene inverting protein PivNM-2 1831548 1832495
NMB1751 transposase, degenerate 1833264 1832887
NMB1752 conserved hypothetical protein FRAMESHIFT 1833772 1833299
NMB1753 VapD-related protein 1834647 1835081
NMB1754 cryptic plasmid protein A-related protein 1835182 1835084
NMB1755 hypothetical protein 1835328 1835669
NMB1756 hypothetical protein 1835980 1836171
NMB1757 hypothetical protein 1836529 1836756
NMB1758 hypothetical protein 1837008 1837217
NMB1759 conserved hypothetical protein 1837403 1838764
NMB1760 conserved hypothetical protein 1839128 1839631
NMB1761 conserved hypothetical protein 1839797 1841047
NMB1762 hemolysin activation protein HecB, putative 1843162 1841378
NMB1763 toxin-activating protein, putative 1843675 1843220
NMB1764 hypothetical protein 1844155 1843844
NMB1765 hypothetical protein 1844466 1844170
NMB1766 hypothetical protein 1845460 1844450
NMB1767 hypothetical protein 1845945 1845532
NMB1768 hemagglutinin/hemolysin-related protein 1853493 1845952
NMB1769 IS1016 family transposase, putative truncation 1853631 1853822
NMB1770 transposase, IS30 family 1854072 1855034
NMB1771 hypothetical protein 1855539 1855108
NMB1772 hypothetical protein 1857374 1855539
NMB1773 hypothetical protein 1857783 1857412
NMB1774 hypothetical protein 1858438 1858064
NMB1775 hypothetical protein 1860252 1858450
NMB1776 hypothetical protein 1860353 1860252
NMB1777 hypothetical protein 1861364 1861122
NMB1778 hypothetical protein 1861489 1861388
NMB1779 hemagglutinin/hemolysin-related protein 1867499 1861515
NMB1780 hemolysin activation protein HecB, putative 1869350 1867611
NMB1781 hypothetical protein 1869919 1869752
NMB1782 hypothetical protein 1870236 1869937
NMB1783 secretion protein, putative FRAMESHIFT 1871826 1870605
NMB1784 hypothetical protein 1872240 1871890
NMB1785 hypothetical protein 1872472 1872236
NMB1786 hypothetical protein 1873623 1872472
NMB1787 N-acetyl-gamma-glutamyl-phosphate reductase 1874156 1875196
NMB1788 ATP-dependent DNA helicase RecG 1878304 1876265
NMB1789 protein-export protein SecB 1878833 1878393
NMB1790 glutaredoxin 3 1879111 1878857
NMB1791 cytoplasmic axial filament protein FRAMESHIFT 1879236 1880813
NMB1792 sensor histidine kinase 1881795 1880854
NMB1793 response regulator, putative FRAMESHIFT 1882272 1881854
NMB1794 citrate transporter 1883808 1882498
NMB1795 hypothetical protein 1884071 1883916
NMB1796 conserved hypothetical protein 1884950 1884381
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NMB1797 penicillin-binding protein 3 1885109 1886515
NMB1798 IS1016 family transposase, putative FRAMESHIFT 1887236 1886597
NMB1799 S-adenosylmethionine synthetase 1888654 1887488
NMB1800 hypothetical protein 1888703 1888903
NMB1801 HtrB/MsbB family protein 1889000 1889893
NMB1802 O-sialoglycoprotein endopeptidase 1891004 1889943
NMB1803 cytochrome c-type biogenesis protein, putative 1892308 1891124
NMB1804 cytochrome c-type biogenesis protein, putative 1894316 1892304
NMB1805 cytochrome c4 1895153 1894533
NMB1806 conserved hypothetical protein 1895353 1895985
NMB1807 penicillin-binding protein 1 1898505 1896112
NMB1808 pilM protein 1898657 1899769
NMB1809 pilN protein FRAMESHIFT 1899775 1900371
NMB1810 pilO protein 1900375 1901019
NMB1811 pilP protein 1901040 1901582
NMB1812 pilQ protein FRAMESHIFT 1901604 1903908
NMB1813 shikimate kinase 1904813 1905322
NMB1814 3-dehydroquinate synthase 1905405 1906481
NMB1815 conserved hypothetical protein 1907451 1908290
NMB1816 conserved hypothetical protein 1908323 1908784
NMB1817 riboflavin-specific deaminase 1908819 1909925
NMB1818 lipopolysaccharide biosynthesis protein, putative 1910123 1911541
NMB1819 hypothetical protein 1911541 1911693
NMB1820 pilin glycosylation protein PglB 1911712 1912950
NMB1821 pilin glycosylation protein PglC 1913086 1914258
NMB1822 pilin glycosylation protein PglD 1914309 1916216
NMB1823 valine--pyruvate aminotransferase 1916275 1917564
NMB1824 conserved hypothetical protein 1918455 1917622
NMB1825 hypothetical protein 1919103 1918903
NMB1826 conserved hypothetical protein 1919452 1919084
NMB1827 DNA polymerase III, alpha subunit 1919852 1923283
NMB1828 conserved hypothetical protein 1924652 1923723
NMB1829 TonB-dependent receptor 1926848 1924725
NMB1830 phosphoglycolate phosphatase, putative 1926996 1927652
NMB1831 lytB protein 1928711 1927746
NMB1832 lipoprotein signal peptidase 1929267 1928743
NMB1833 isoleucyl-tRNA synthetase 1933332 1930546
NMB1834 riboflavin kinase/FMN adenylyltransferase 1934394 1933477
NMB1835 tyrosyl-tRNA synthetase 1936127 1934925
NMB1836 lipopolysaccharide biosynthesis protein WbpC, putative 1938151
        1936283
NMB1837 hypothetical protein 1938466 1938215
NMB1838 GTP-binding protein, putative 1939615 1938527
NMB1839 formate--tetrahydrofolate ligase 1941406 1939733
NMB1840 conserved hypothetical protein 1941581 1942009
NMB1841 mannose-1-phosphate guanyltransferase-related protein 1942741
        1942049
NMB1842 4-hydroxyphenylacetate 3-hydroxylase, small subunit, putative
        1943257 1942760
NMB1843 transcriptional regulator, MarR family 1943812 1943375
NMB1844 hypothetical protein 1943938 1943819
NMB1845 thioredoxin 1944662 1944156
NMB1846 Mrp/NBP35 family protein 1945032 1946108
NMB1847 pilC1 protein FRAMESHIFT 1947287 1950374
NMB1848 hypothetical protein 1952279 1951938
NMB1849 carbamoyl-phosphate synthase, small subunit 1952589 1953719
NMB1850 hypothetical protein 1954091 1954363
NMB1851 hypothetical protein 1954440 1954697
NMB1852 conserved hypothetical protein 1954697 1955083
NMB1853 hypothetical protein 1955422 1955691
NMB1854 hypothetical protein 1955768 1956406
NMB1855 carbamoyl-phosphate synthase, large subunit 1956438 1959650
NMB1856 transcriptional regulator, LysR family 1960777 1959881
NMB1857 modulator of drug activity B 1961016 1961591
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NMB1858 hypothetical protein 1961977 1961594
NMB1859 S-adenosylmethionine:tRNA ribosyltransferase-isomerase 1963108
        1962071
NMB1860 acetyl-CoA carboxylase, biotin carboxyl carrier protein 1963464
        1963916
NMB1861 acetyl-CoA carboxylase, biotin carboxylase 1964031 1965389
NMB1862 ribosomal protein L11 methyltransferase 1965653 1966537
NMB1863 oligoribonuclease 1966558 1967118
NMB1864 glutamate-1-semialdehyde 2,1-aminomutase 1968808 1967528
NMB1865 hypothetical protein 1968821 1969036
NMB1866 conserved hypothetical protein 1969593 1970918
NMB1867 1-deoxyxylulose-5-phosphate synthase 1972919 1971009
NMB1868 integrase/recombinase XerC 1973909 1973007
NMB1869 fructose-bisphosphate aldolase 1974093 1975154
NMB1870 hypothetical protein 1975177 1976136
NMB1871 conserved hypothetical protein 1976286 1976960
NMB1872 ribosomal-protein-alanine acetyltransferase, putative 1976960
        1977397
NMB1873 DNA polymerase, bacteriophage-type, putative 1977394 1978128
NMB1874 orotate phosphoribosyltransferase 1978193 1978831
NMB1875 hypothetical protein 1978908 1979339
NMB1876 N-acetylglutamate synthase 1979339 1980646
NMB1877 prolyl oligopeptidase family protein 1980850 1982862
NMB1878 transcriptional regulator, AraC family 1983567 1982983
NMB1879 hypothetical protein 1983936 1983628
NMB1880 ABC transporter, periplasmic solute-binding protein, putative
        1984172 1985134
NMB1881 conserved hypothetical protein 1985694 1986014
NMB1882 TonB-dependent receptor 1986131 1988305
NMB1883 hypothetical protein 1988727 1988440
NMB1884 conserved hypothetical protein 1989047 1988727
NMB1885 protein-L-isoaspartate O-methyltransferase 1989783 1989130
NMB1886 conserved hypothetical protein 1990389 1989889
NMB1887 triosephosphate isomerase 1990568 1991338
NMB1888 protein-export membrane protein SecG 1991348 1991695
NMB1889 hypothetical protein 1992486 1992575
NMB1890 conserved hypothetical protein 1992709 1993074
NMB1891 helix-turn-helix family protein 1993074 1993382
NMB1892 hypothetical protein 1993495 1993704
NMB1893 conserved hypothetical protein FRAMESHIFT 1994615 1993771
NMB1894 leucyl-tRNA synthetase, truncation 1994851 1994723
NMB1895 DNA adenine methylase, truncation 1994987 1994847
NMB1896 type II restriction enzyme DpnI 1995774 1994974
NMB1897 leucyl-tRNA synthetase 1998538 1995911
NMB1898 lipoprotein 1998808 1999320
NMB1899 hypothetical protein 1999330 1999770
NMB1900 polyphosphate kinase 1999849 2001996
NMB1901 IS1016c2 transposase, degenerate 2002232 2002770
NMB1902 DNA polymerase III, beta subunit 2004113 2003013
NMB1903 chromosomal replication initiator protein DnaA 2005904 2004351
NMB1904 ribosomal protein L34 2006196 2006327
NMB1905 ribonuclease P protein component 2006333 2006695
NMB1906 conserved hypothetical protein 2006763 2006981
NMB1907 60 kd inner-membrane protein 2007156 2008790
NMB1908 conserved hypothetical protein 2009599 2008877
NMB1909 Maf/YceF/YhdE family protein 2010236 2009649
NMB1910 conserved hypothetical protein 2010384 2010884
NMB1911 50S ribosomal protein L32 2010921 2011097
NMB1912 conserved hypothetical protein 2011275 2011799
NMB1913 fatty acid/phospholipid synthesis protein 2011891 2012943
NMB1914 hypothetical protein 2013082 2013330
NMB1915 hypothetical protein 2013360 2013746
NMB1916 3-oxoacyl-(acyl-carrier-protein) synthase III 2013931 2014890
NMB1917 conserved hypothetical protein 2014940 2015344
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NMB1918 malonyl CoA-acyl carrier protein transacylase 2015441 2016364
NMB1919 ABC transporter, ATP-binding protein 2016505 2018367
NMB1920 GMP synthase 2018470 2020032
NMB1921 3-oxoacyl-(acyl-carrier-protein) reductase 2020097 2020840
NMB1922 IS1106 transposase, degenerate 2021273 2021118
NMB1923 conserved hypothetical protein 2021377 2021757
NMB1924 inositol monophosphatase family protein 2022673 2021981
NMB1925 conserved hypothetical protein 2022876 2023598
NMB1926 lacto-N-neotetraose biosynthesis glycosyl transferase LgtE 2025680
        2024841
NMB1927 lacto-N-neotetraose biosynthesis glycosyl transferase-related
        protein 2025817 2025725
NMB1928 lacto-N-neotetraose biosynthesis glycosyl transferase LgtB 2026656
        2025832
NMB1929 lacto-N-neotetraose biosynthesis glycosyl transferase LgtA 2027747
        2026701
NMB1930 glycyl-tRNA synthetase, beta chain 2029827 2027767
NMB1931 hypothetical protein 2030256 2029912
NMB1932 glycyl-tRNA synthetase, alpha chain 2031238 2030336
NMB1933 ATP synthase F1, epsilon subunit 2032065 2031646
NMB1934 ATP synthase F1, beta subunit 2033473 2032079
NMB1935 ATP synthase F1, gamma subunit 2034386 2033514
NMB1936 ATP synthase F1, alpha subunit 2035958 2034414
NMB1937 ATP synthase F1, delta subunit 2036502 2035972
NMB1938 ATP synthase F0, B subunit 2036977 2036510
NMB1939 ATP synthase F0, C subunit 2037284 2037051
NMB1940 ATP synthase F0, A subunit 2038207 2037344
NMB1941 hypothetical protein 2038550 2038200
NMB1942 hypothetical protein 2038997 2038707
NMB1943 hypothetical protein 2039340 2039170
NMB1944 ParB family protein 2040252 2039395
NMB1945 3-octaprenyl-4-hydroxybenzoate carboxy-lyase 2040407 2040976
NMB1946 outer membrane lipoprotein 2041904 2041044
NMB1947 ABC transporter, permease protein 2042749 2042066
NMB1948 ABC transporter, ATP-binding protein 2043488 2042754
NMB1949 soluble lytic murein transglycosylase, putative 2044018 2045865
NMB1950 30S ribosomal protein S21 2046157 2046366
NMB1951 conserved hypothetical protein 2046405 2046944
NMB1952 stringent starvation protein B 2047538 2047149
NMB1953 stringent starvation protein A 2048215 2047613
NMB1954 hypothetical protein 2050146 2048488
NMB1955 cadmium resistance protein 2050933 2050310
NMB1956 50S ribosomal protein L31 2051451 2051239
NMB1957 acetyltransferase-related protein FRAMESHIFT 2051688 2052197
NMB1958 thioredoxin, putative 2052770 2052273
NMB1959 conserved hypothetical protein 2053150 2052770
NMB1960 hypothetical protein 2053632 2053153
NMB1961 VacJ-related protein 2054464 2053640
NMB1962 hypothetical protein 2054739 2054464
NMB1963 conserved hypothetical protein 2055380 2054793
NMB1964 conserved hypothetical protein 2055911 2055420
NMB1965 conserved hypothetical protein 2056738 2055965
NMB1966 ABC transporter, ATP-binding protein 2057586 2056789
NMB1967 transcriptional regulator, AraC family 2057759 2058673
NMB1968 aldehyde dehydrogenase A 2058936 2060375
NMB1969 serotype-1-specific antigen, putative 2061412 2064657
NMB1970 para-aminobenzoate synthetase component I/4-amino-4-
        deoxychorismate lyase, putative 2065692 2067470
NMB1971 conserved hypothetical protein 2069049 2067535
NMB1972 chaperonin, 60 kDa 2071379 2069748
NMB1973 chaperonin, 10 kDa 2071762 2071475
NMB1974 IS1016C2 transposase, degenerate 2071990 2072639
NMB1975 sodium- and chloride-dependent transporter 2072855 2074387
NMB1976 diaminopimelate decarboxylase 2075759 2074518

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NMB1977 hypothetical protein 2075940 2075773
NMB1978 cyaY protein 2076011 2076331
NMB1979 conserved hypothetical protein 2076361 2077374
NMB1980 conserved hypothetical protein 2077403 2077819
NMB1981 conserved hypothetical protein 2077844 2078347
NMB1982 DNA polymerase I 2078496 2081309
NMB1983 hypothetical protein 2082658 2083326
NMB1984 IS1106 transposase FRAMESHIFT 2083391 2084499
NMB1985 adhesion and penetration protein 2089191 2084821
NMB1986 hypothetical protein 2089756 2089328
NMB1987 thiophene and furan oxidation protein ThdF 2090041 2091384
NMB1988 iron-regulated outer membrane protein FrpB 2092611 2094752
NMB1989 iron(III) ABC transporter, periplasmic binding protein 2095472
        2096434
NMB1990 iron(III) ABC transporter, permease protein 2096601 2097566
NMB1991 iron(III) ABC transporter, permease protein 2097559 2098530
NMB1992 hypothetical protein 2098577 2099200
NMB1993 iron(III) ABC transporter, ATP-binding protein 2099286 2100041
NMB1994 adhesin/invasin, putative 2100342 2101433
NMB1995 nitrogen regulatory protein P-II, FRAMESHIFT 2101839 2101423
NMB1996 phosphoribosylformylglycinamidine synthase 2101990 2105949
NMB1997 hydroxyacylglutathione hydrolase 2106047 2106802
NMB1998 serine-type peptidase 2107119 2111411
NMB1999 magnesium transporter 2111646 2113097
NMB2000 conserved hypothetical protein 2114094 2113189
NMB2001 conserved hypothetical protein 2114339 2115091
NMB2002 hypothetical protein 2115113 2115328
NMB2003 conserved hypothetical protein 2115476 2115820
NMB2004 conserved hypothetical protein 2115820 2116509
NMB2005 glutamate N-acetyltransferase/amino-acid acetyltransferase 2116579
        2117796
NMB2006 chloride channel protein-related protein 2117859 2119265
NMB2007 ATP-dependent RNA helicase HrpA, truncation 2119458 2120846
NMB2008 ABC transporter, ATP-binding protein-related protein 2120993
        2122633
NMB2009 ATP-dependent RNA helicase HrpA, degenerate 2122680 2122859
NMB2010 YhbX/YhjW/YijP/YjdB family protein 2123074 2124648
NMB2011 ATP-dependent RNA helicase HrpA, truncation 2124717 2128133
NMB2012 transcriptional regulator, HTH_3 family 2129260 2128172
NMB2013 hypothetical protein 2129920 2129279
NMB2014 hypothetical protein 2130249 2130004
NMB2015 hypothetical protein 2130614 2130880
NMB2016 type IV pilin-related protein 2131493 2131047
NMB2017 ComEA-related protein 2132027 2131584
NMB2018 conserved hypothetical protein 2138411 2137752
NMB2019 lipopolysaccharide core biosynthesis protein KdtB 2138949 2138440
NMB2020 conserved hypothetical protein 2139756 2139076
NMB2021 conserved hypothetical protein 2140179 2139916
NMB2022 conserved hypothetical protein 2140722 2140255
NMB2023 conserved hypothetical protein 2141162 2140779
NMB2024 conserved hypothetical protein 2141826 2141224
NMB2025 conserved hypothetical protein 2142422 2141826
NMB2026 ABC transporter, permease protein 2144046 2142454
NMB2027 gluconate permease 2144385 2145767
NMB2028 thermoresistant gluconokinase 2145790 2146305
NMB2029 homoserine kinase FRAMESHIFT 2147564 2146650
NMB2030 3-demethylubiquinone-9 3-methyltransferase 2148329 2147604
NMB2031 tryptophan transporter 2148481 2149719
NMB2032 lipopolysaccharide glycosyl transferase, FRAMESHIFT 2149872
        2150922
NMB2033 histidinol-phosphatase, putative 2151173 2151733
NMB2034 1-acyl-sn-glycerol-3-phosphate acyltransferase, putative 2151765
        2152505
NMB2035 conserved hypothetical protein 2152505 2153194
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NMB2036 tRNA pseudouridine synthase A 2154495 2155390
NMB2037 hypothetical protein 2155415 2155651
NMB2038 PemK-related protein 2155642 2155962
NMB2039 major outer membrane protein PIB 2157487 2158479
NMB2040 thiamine biosynthesis protein ThiC 2161479 2159581
NMB2041 thiamin pyrophosphokinase-related protein 2162093 2162965
NMB2042 spermidine/putrescine ABC transporter, ATP-binding protein 2162977
        2163912
NMB2043 IS1106 transposase, putative POINT MUTATION 2165702 2164734
NMB2044 phosphoenolpyruvate-protein phosphotransferase 2168278 2166506
NMB2045 phosphocarrier protein HPr 2168547 2168281
NMB2046 PTS system, IIAB component 2169074 2168619
NMB2047 hypoxanthine-guanine phosphoribosyltransferase, putative 2169697
        2169137
NMB2048 DNA ligase 2170590 2169769
NMB2049 glyoxalase II family protein 2170682 2171311
NMB2050 conserved hypothetical protein 2173305 2171524
NMB2051 ubiquinol--cytochrome c reductase, cytochrome c1 2174444 2173647
NMB2052 ubiquinol--cytochrome c reductase, cytochrome b 2175793 2174447
NMB2053 ubiquinol--cytochrome c reductase, iron-sulfur subunit 2176393
        2175815
NMB2054 conserved hypothetical protein 2177265 2176519
NMB2055 transcriptional regulator, LysR family 2177396 2178322
NMB2056 30S ribosomal protein S9 2178972 2178583
NMB2057 50S ribosomal protein L13 2179413 2178985
NMB2058 conserved hypothetical protein 2180081 2179779
NMB2059 hypothetical protein 2180421 2180095
NMB2060 glycerol-3-phosphate dehydrogenase (NAD+) 2181465 2180479
NMB2061 phosphoenolpyruvate carboxylase 2184290 2181591
NMB2062 thiF protein 2184460 2185227
NMB2063 slyX protein, putative 2186018 2185792
NMB2064 conserved hypothetical protein 2187407 2186022
NMB2065 hemK protein FRAMESHIFT 2188764 2187496
NMB2066 tldD protein 2190271 2188832
NMB2067 conserved hypothetical protein 2190661 2191881
NMB2068 D-amino acid oxidase flavoprotein, putative 2191881 2192978
NMB2069 thiamin-phosphate pyrophosphorylase 2193003 2193617
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NMB2071 thiG protein 2194450 2195235
NMB2072 hypothetical protein 2195352 2195492
NMB2073 hypothetical protein 2195580 2195780
NMB2074 hypothetical protein 2196867 2196004
NMB2075 BirA protein/Bvg accessory factor 2198657 2196882
NMB2076 aut protein 2199160 2198657
NMB2077 methylenetetrahydrofolate dehydrogenase/methenyltetrahydrofolate
        cyclohydrolase FRAMESHIFT 2199800 2200650
NMB2078 conserved hypothetical protein 2201296 2200718
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NMB2080 hypothetical protein 2203345 2202818
NMB2081 hypothetical protein 2203700 2203359
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NMB2083 cysteinyl-tRNA synthetase 2205970 2204552
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NMB2085 hypothetical protein 2207707 2206661
NMB2086 GTP-binding protein 2208944 2207793
NMB2087 hypothetical protein 2209792 2209433
NMB2088 conserved hypothetical protein 2210766 2209894
NMB2089 conserved hypothetical protein 2210812 2211156
NMB2090 phosphoheptose isomerase 2211164 2211754
NMB2091 hemolysin, putative 2211821 2212426
NMB2092 hypothetical protein 2212437 2213066
NMB2093 methionine aminopeptidase 2213109 2213885
NMB2094 hypothetical protein 2214043 2214339
NMB2095 adhesin complex protein, putative 2214580 2214951
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NMB2096 malate:quinone oxidoreductase 2216608 2215145
NMB2097 hypothetical protein 2216749 2216663
NMB2098 conserved hypothetical protein 2217735 2217148
NMB2099 conserved hypothetical protein 2218377 2217799
NMB2100 hypothetical protein 2218455 2218685
NMB2101 30S ribosomal protein S2 2218861 2219586
NMB2102 elongation factor TS (EF-TS) 2219718 2220569
NMB2103 uridylate kinase 2220789 2221505
NMB2104 mafA protein FRAMESHIFT 2221692 2222652
NMB2105 mafB protein 2222695 2224143
NMB2106 hypothetical protein 2224143 2224496
NMB2107 MafB-related protein 2224527 2225288
NMB2108 hypothetical protein 2225301 2225504
NMB2109 hypothetical protein 2225639 2225887
NMB2110 hypothetical protein 2225887 2226255
NMB2111 MafB-related protein 2226268 2227110
NMB2112 hypothetical protein 2227306 2227572
NMB2113 hypothetical protein 2227598 2227897
NMB2114 MafB-related protein 2227948 2228583
NMB2115 hypothetical protein 2228589 2228930
NMB2116 hypothetical protein 2228971 2229312
NMB2117 MafB-related protein, degenerate 2229645 2230340
NMB2118 hypothetical protein 2230340 2230654
NMB2119 MafB-related protein 2230709 2231464
NMB2120 hypothetical protein 2231471 2231869
NMB2121 hypothetical protein 2232031 2232372
NMB2122 MafB-related protein 2232409 2232510
NMB2123 hypothetical protein 2232518 2232871
NMB2124 hypothetical protein 2232922 2233047
NMB2125 hypothetical protein 2233047 2233418
NMB2126 IS1016 family transposase, putative FRAMESHIFT 2234296 2233462
NMB2127 protease, putative 2235364 2234381
NMB2128 CinA-related protein 2236204 2235407
NMB2129 argininosuccinate synthase 2236517 2237857
NMB2130 hypothetical protein 2237908 2238147
NMB2131 hypothetical protein 2238143 2238355
NMB2132 transferrin-binding protein-related protein 2239900 2238437
NMB2133 sodium/dicarboxylate symporter family protein 2241384 2240158
NMB2134 conserved hypothetical protein 2241857 2243761
NMB2135 conserved hypothetical protein 2243771 2247985
NMB2136 peptide transporter 2249471 2250925
NMB2137 hypothetical protein 2251451 2251660
NMB2138 peptide chain release factor 2 2252924 2251824
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NMB2142 conserved hypothetical protein 2255187 2256050
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NMB2144 sigma factor, putative 2256811 2257395
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NMB2150 conserved hypothetical protein 2261006 2260440
NMB2151 phosphoribosylamine--glycine ligase 2262344 2261076
NMB2152 hypothetical protein 2262502 2262816
NMB2153 conserved hypothetical protein 2263482 2262874
NMB2154 electron transfer flavoprotein, alpha subunit 2264480 2263548
NMB2155 electron transfer flavoprotein, beta subunit 2265240 2264494
NMB2156 heptosyltransferase I 2266435 2265470
NMB2157 pyrazinamidase/nicotinamidase PncA, putative 2267107 2266475
NMB2158 conserved hypothetical protein 2267221 2267898
NMB2159 glyceraldehyde 3-phosphate dehydrogenase 2269163 2268162
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NMB2160 DNA mismatch repair protein MutS 2269607 2272198
NMB0505 hypothetical protein 533467 533186
NMB1123 hypothetical protein 1135584 1135390
NMB1124 hypothetical protein 1136271 1135627
NMB1125 hypothetical protein 1136639 1136271
NMB1126 hypothetical protein 1137317 1136649
NMB1127 oxidoreductase, short chain dehydrogenase/reductase family 1138201
        1137485
NMB1129 hypothetical protein 1139833 1139630
NMB1130 phytoene synthase, putative 1140867 1139998
NMB1133 conserved hypothetical protein / ankyrin-related protein 1144428
        1143670
NMB1134 ferredoxin, 2Fe-2S type 1144824 1144486
NMB1135 hypothetical protein 1145242 1145102
NMB1137 conserved hypothetical protein 1146211 1146017
NMB1138 conserved hypothetical protein 1146683 1146285
NMB1141 RNA methyltransferase, TrmH family 1150088 1149480
NMB1142 hypothetical protein 1150375 1150142
NMB1143 hypothetical protein 1150909 1150547
NMB1144 hypothetical protein 1151226 1150924, lipoprotein
NMB1147 hypothetical protein 1154639 1154007, homology to plasmid proteins
        Y4SH_RISHN and PXO2 BACAN
NMB1149 hypothetical protein 1155016 1154876
NMB1151 sulfite reductase hemoprotein, beta-component 1159086 1157320
NMB1152 sulfite reductase (NADPH) flavoprotein, alpha component 1160927
        1159116
NMB1154 sulfate adenylyltransferase, subunit 2 1163172 1162252
NMB1156 siroheme synthase 1165412 1163964
NMB1157 hypothetical protein 1165696 1165541
NMB1159 conserved hypothetical protein 1167316 1166429, inner membrane
NMB1160 conserved hypothetical protein 1167316 1166429
NMB1166 conserved hypothetical protein 1171633 1170323
NMB1169 chaperone protein HscA 1174933 1173074
NMB1170 hypothetical protein 1175666 1175013
NMB1174 hypothetical protein 1178053 1177373
NMB1177 acetyl-CoA carboxylase, carboxyl transferase alpha subunit 1179887
        1178931
NMB1178 mesJ protein FRAMESHIFT 1181265 1179984
NMB1183 UDP-N-acetylmuramate:L-alanyl-gamma-D-glutamyl-meso-
        diaminopimelate ligase 1184700 1183327
NMB1184 biotin synthetase 1185959 1184910
NMB1186 hypothetical protein 1186881 1186729
NMB1188 dihydroxy-acid dehydratase 1189180 1187324
NMB1191 sulfate adenylyltransferase, subunit 1 1194246 1192963
NMB1193 phosphoadenosine phosphosulfate reductase 1195986 1195249
NMB1196 nickel-dependent hydrogenase, b-type cytochrome subunit 1198401
        1197748

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68 C12N15/11 C07K14/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base, and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data, MEDLINE, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 17805 A (RAYMOND NIGEL ;QUINN FREDERICK D (US); US HEALTH (US); RIBOT EFRAI) 30 April 1998 (1998-04-30) the whole document ---	1-4, 7-14, 18-24
X	EP 0 467 714 A (MERCK & CO INC) 22 January 1992 (1992-01-22) claims; example 3 --- -/--	1-4, 7-14, 18-24

[X] Further documents are listed in the continuation of box C. [X] Patent family members are listed in annex.

° Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an orel disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" leter document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cennot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 October 2000	1 9. 10. 00

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Luzzatto, E

Form PCT/ISA/210 (second sheet) (July 1992)

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	FLEISCHMANN R D ET AL: "WHOLE-GENOME RANDOM SEQUENCING AND ASSEMBLY OF HAEMOPHILUS INFLUENZAE RD" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 269, no. 5223, 28 July 1995 (1995-07-28), pages 496-498,507-51, XP000517090 ISSN: 0036-8075 the whole document ___	1-4, 7-14, 16-24
T	TETTELIN H ET AL: "Complete genome sequence of Neisseria meningitidis serogroup B strain MC58 'see comments!." SCIENCE, (2000 MAR 10) 287 (5459) 1809-15., XP000914963 page 963 ___	
T	PIZZA M ET AL: "Identification of vaccine candidates against serogroup B meningococcus by whole- genome sequencing 'see comments!." SCIENCE, (2000 MAR 10) 287 (5459) 1816-20., XP000914964 the whole document ___	
T	PARKHILL J ET AL: "Complete DNA sequence of a serogroup A strain of Neisseria meningitidis Z2491 'see comments!." NATURE, (2000 MAR 30) 404 (6777) 502-6., XP000918875 the whole document _____	

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Box I   Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:   16,17 (partly)
   because they relate to subject matter not required to be searched by this Authority, namely:

   Rule 39.1(v)   PCT - Presentation of information (insofar as related to
   computer databases)

2. [X] Claims Nos.:   5,6,15 (completely), 1-4, 7-14, 16-24 (partly)
   because they relate to parts of the International Application that do not comply with the prescribed requirements to such
   an extent that no meaningful International Search can be carried out, specifically:

   see FURTHER INFORMATION sheet PCT/ISA/210

3. [ ] Claims Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II   Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all
   searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment
   of any additional fee.

3. [ ] As only some of the required additional search fees were timely paid by the applicant, this International Search Report
   covers only those claims for which fees were paid, specifically claims Nos.:

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is
   restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest   [ ] The additional search fees were accompanied by the applicant's protest.

                               [ ] No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM   PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 5,6,15 (completely), 1-4, 7-14, 16-24 (partly)

1) Claims 5 and 6 (and thus 15 which refers to claim 6 and whose
reference to claims 7 and 8 is wrong) lack any essential technical
feature which could allow a meaningful search to be carried out. They
have thus not been searched. For the same reason claims 18-24 have not
been searched insofar as referring to any of claims 5, 6 and 15.

2) Claims 1-4, 7-14, 16-24 have only been searched insofar as related to
the full sequence SEQ ID 1 in view of the absence of any indication in
the claims as to searcheable SEQ IDs corresponding to the "NMB open
reading frames". SEQ ID 1 as such is not searchable by means of
similarity algorithms since it is too long: the search with respect
thereto has thus been carried out based on keywords.

3) A further reason for not searching claims 1-4 insofar as related to
"NMB open reading frames" is that claim 1 is unclear (Art. 6 PCT).
It relates to a method for searching open reading frames "within one or
more...NMB open reading frames", which is however technically
meaningless.

The applicant's attention is drawn to the fact that claims, or parts of
claims, relating to inventions in respect of which no international
search report has been established need not be the subject of an
international preliminary examination (Rule 66.1(e) PCT). The applicant
is advised that the EPO policy when acting as an International
Preliminary Examining Authority is normally not to carry out a
preliminary examination on matter which has not been searched. This is
the case irrespective of whether or not the claims are amended following
receipt of the search report or during any Chapter II procedure.

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9817805	A	30-04-1998	AU	5426098 A	15-05-1998
EP 0467714	A	22-01-1992	AU	8114091 A	23-01-1992
			CA	2047043 A	20-01-1992
			FI	913473 A	20-01-1992
			JP	6056690 A	01-03-1994
			MX	9100272 A	28-02-1992
			NO	912822 A	20-01-1992
			PT	98381 A	29-05-1992
			ZA	9105629 A	25-03-1992
			AU	8113691 A	23-01-1992
			CA	2050635 A	20-01-1992
			FI	913475 A	20-01-1992
			JP	6016569 A	25-01-1994
			JP	6055679 B	27-07-1994
			NO	912823 A	20-01-1992
			NZ	238974 A	23-12-1992
			PT	98382 A	29-05-1992
			ZA	9105627 A	25-03-1992
			AU	8113791 A	23-01-1992
			CA	2047030 A	20-01-1992
			FI	913474 A	20-01-1992
			JP	6041197 A	15-02-1994
			MX	9100274 A	28-02-1992
			NO	912824 A	20-01-1992
			PT	98383 A	30-06-1992
			ZA	9105628 A	25-03-1992